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ABSTRACT

The first half of this document examines the national supply and demand of teachers, while the second half is concerned with the situation in Wisconsin. The change from the teacher shortage of the 1960's to the surplus of the 1970's is traced and explained, and the continued shortage in certain fields, such as industrial arts, special education, mathematics, trade and vocational, natural and physical science, women's physical education, remedial reading, speech correction, library science, and elementary education, is noted. It is suggested that the teacher surplus would not exist if all schools were operating fully to meet the educational needs of all children. Data are included on the numbers of elementary and secondary teachers between 1959 and 1970, on projected demand through 1980, and on school population and teacher qualifications. The chapters on Wisconsin analyze the teacher supply and demand picture on the basis of information obtained from a survey of college placement officers, school district administrators, and education deans and department chairmen of Wisconsin colleges and universities engaged in teacher preparation. Eleven implications are included which summarize the present situation and suggest future directions for teacher education institutions and their students. (MBM)

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For Information

CCHE #71-15, March

TEACHER SUPPLY AND DEMAND IN WISCONSIN

1970-1980

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INTRODUCTION

The evidence seemed convincing as early as 1967. By 1969, there was little doubt. And, in 1970, it was headlined around the country: The general shortage of elementary and secondary school teachers had come to an end. For the first time in years, large numbers of candidates for teaching positions were finding "no vacancy" signs posted at many of the nation's elementary and secondary schools.

Items:

- In April, 1970, the U.S. Department of Labor had noted in its Monthly Labor Review that, "The aggregate supply (of elementary and secondary teachers) is expected to significantly exceed demand if recent entry patterns into the occupation continue."

- By November, 1970, the Labor Department had released a 10-year manpower forecast (U.S. Manpower in the 1970's) showing a substantial decline in the number of school teacher job openings in the decade before us. The department called for careful appraisal on the part of students in making career decisions, particularly women graduates--two out of three of whom, in choosing a career field, have elected the teaching profession.

- The Department of Labor estimated that between 1968 and 1980 there would be 4.2 million teachers entering the market, with not more than 2.4 million new openings for them to fill.

- Even while enrollments in Wisconsin grade and high schools were projected to be less in 1980 than they were in 1970, the number of qualified beginning teachers produced by Wisconsin public and private universities jumped by 18.8% at the elementary level and 30.3% at the secondary level between 1968 and 1969 alone.

An Associated Press survey, conducted in the summer of 1970, found teacher turnover to be down substantially from previous years over much of the country. The Associated Press noted that Chicago had so few qualified applicants in 1969 that the Board of Education hired 1,000 persons with

provisional teaching certificates. In 1970, the director of teacher personnel for Chicago reported ". . . Ph.D's coming to our door for teaching positions that already have been filled." Newsweek Magazine, in its June, 1970, issue, observed:

> The teacher glut is nationwide. In a Boston suburb, a call for a single social studies teacher produced 165 applicants. Placement officials for the five teachers' colleges in Minnesota estimate that more than half of their 3,314 graduates will be unable to find positions next fall. Primary schools in Evanston, Illinois, receive 25 applications for every opening.

Why the Change?

A variety of reasons are cited as contributing to the market turnaround. The Manpower Report of the President, transmitted to Congress in March, 1970, said the most important reason for the sudden improvement in teacher supply was the sharp increase in the number of new college graduates at the end of the 1960's, when college graduations began to reflect the upsurge in births after World War II. At the same time, demand for new school teachers, which had steadily risen during most of the postwar period, took a downward turn. The number of new teachers required, as a percent of all college graduates, decreased from 35% in 1963 to 21% in 1969 and is expected to drop to 14-18% by 1978. Interacting in the decline, then, are the factors of a marked reduction in the growth of the school-age population, a consequent decrease in the numbers of teaching positions required annually, and an on-going increase in the pool of qualified beginning teachers.

A slackened economy is also cited as having an effect on the teacher supply and demand situation. Taxpayer objections to local property tax levels have forced many school boards to trim operating budgets. Teachers' salaries, comprising some 80% of most school budgets, are subject to close scrutiny--

leading, in some instances, to the deletion of special programs or the reduction of teaching staffs, with the resultant increase in the student-teacher ratio. A tighter job market for aspiring college faculty is reportedly stimulating greater numbers of persons with post-baccalaureate degrees to apply for high school teaching positions. Industry cutbacks of highly trained personnel have also created a new source of candidates for teaching posts in some areas. It is also suggested that improved teacher salaries and related benefits have lead an increasing number of college students and graduates to consider a teaching career.

Teacher Supply: Pockets of Poverty Midst Plenty

Even as the general shortage of teachers comes to an end, chronic shortages persist for teachers in certain selected and specialized fields and services. Of the 141 positions in Wisconsin public schools not filled as of September 15, 1970, 100 of the positions related to only 7 of the 32 professional categories identified by the Department of Public Instruction. The positions, and the number of openings, included: special education (36.5), guidance (17.5), administrators (12), mathematics (11.5), supervisors (9.0), music (7.0), and remedial reading (6.5). There is also indication of other areas of relatively short supply of well qualified personnel.

On a national basis, school systems report difficulty in filling positions in such fields as industrial arts, special education, mathematics, trade and vocational, natural and physical science, women's physical education, specialists in the education of the disadvantaged, remedial reading, speech correction, librarians, and elementary education. Many school systems around the nation have had to resort to the employment of persons with sub-standard qualifications in several of the subject areas cited.

The "new surplus" is general in nature--affecting most, but not all, subject fields and services. Nor is the supply evenly distributed.

Although the number of states reporting substantial shortages of applicants was greatly reduced between 1966 and 1969 (from 20 to 2) 12 states still reported some general shortages and 32 had difficulty finding persons for selected fields even while experiencing an oversupply in other fields. Distribution of teacher applicants, as might be expected, is also uneven within individual states.

Oversupply or Opportunity?

There are others in education who believe that the general abundance of qualified beginning teachers does not represent a surplus of human resources but an opportunity to inaugurate a new era of quality education. Helen Bain, president of the National Education Association, believes that there would be a teacher shortage today--not a surplus--if all schools were operating full tilt in meeting the educational needs of children. Even attaining "minimum standards of quality," she points out, would result in a shortage of 157,000 teachers.

M. M. Chambers, a noted observer of the education scene, agrees with Mrs. Baine's interpretation of the situation. Chambers, writing in the September, 1970, issue of his newsletter, challenges the notion that there can be an oversupply of teachers when, ". . . there is an enormous unfilled need for well-educated teachers of kindergarten and preschool children in child-care agencies, which do not yet exist except on a fractional scale." He asserts that public schools are often "notoriously overcrowded" and that the remedy is ". . . to staff them with enough well-educated teachers so that decent human relationships can be established between pupil and teacher"--an action, which according to Chambers, may mean about twice as many teachers, counselors, and assistant teachers as are now in service. This approach is similar to what NEA terms the Quality Criterion Estimate (QCE) of demand for teachers, which relates to the number of new teachers needed to achieve immediately a standard for minimum quality in the staffing of public-school classrooms. The QCE concept and estimates are discussed in Chapter I of this report.

Chambers is of the mind that there can never be too many educated persons, and takes issue with what he calls "panicky talk of a surplus of teachers." "If the pupil-teacher ratio were halved, to 15 to 1 instead of 30 to 1," he argues, "there would be none too many teachers." Chambers is also highly critical of manpower analysts who decry overproduction of undergraduate and graduate degree holders, in general and by special area of study:

> In the late 1930's Walter M. Kotschnig's warning that too many Ph.D's would bring on a Hitlerian revolution was soon exploded. In the 40's Seymour E. Haris's warning of too many bachelors' degrees was soon proved wrong and he now admits he was mistaken (much to his credit). At least twice the planners of engineering education have made huge blunders, presenting us at one time with a painful oversupply, and a few years later with the most acute shortage of engineers in history.

Chambers concludes that these "manipulations of statistics" can " . . . foreclose the greatest opportunity in history to improve the teaching in colleges and schools at all levels, and to elevate the general standard of education of the whole population."

Critics of the Bain and Chambers approach do not necessarily argue against the need for improvements in education such as replacement of teachers who have substandard qualifications, reduction of pupil-teacher ratios, establishment of additional kindergarten and preschool operations, and the enrichment of intercity education programs. They do argue, however, that, given the current economic conditions and increasing public disenchantment with the education establishment, many of the improvements called for are simply not soon likely to be realized. If this is the case, they contend, a recitation of new opportunities does not really address itself to the problem of oversupply--a problem which will only be magnified over the present decade if the career patterns of collegiate enrollment do not change significantly.

The CCHE Study

The staff of the Coordinating Council for Higher Education had for some time been aware of the changing picture of teacher supply and demand. In the summer of 1970, a CCHE Teacher Education Advisory Council, comprised of a broad cross-section of persons representing all levels of education in Wisconsin, was formed to provide advice and assistance to the CCHE staff in teacher education programming in Wisconsin public universities. The CCHE staff and the Advisory Council concurred that a study of the supply of and demand for elementary and secondary education teachers in Wisconsin would be essential to policy determination. The study was planned and initiated in the summer of 1970.

The first two chapters of the report consist of a general overview of the national and state teacher supply and demand picture and were prepared from available data. The subsequent chapters analyze the teacher supply and demand picture in Wisconsin on the basis of information obtained from a CCHE staff survey of college placement officers, school district administrators, education deans and department chairmen of Wisconsin colleges and universities, public and private, engaged in teacher preparation.

A Note of Caution

The staff report (Human Resources and Higher Education) of the Commission on Human Resources and Advanced Education notes the difficulties encountered in supply and demand studies. Demand projections are not always certain, the authors observe, because they may depend upon factors such as the state of the economy, military requirements, unforeseen changes in social conditions, the possible development of new materials or processes, and other factors difficult to foresee. Major policy decisions may change demand conditions. An example would be the sharp increase in demand for workers in the health fields following adoption of the Medicare program and other new health and medical legislation.

At the same time, projections of supply are subject to such factors as career choice adjustments which may follow news of a surplus or shortage of job applicants in a particular field, financial aid programs designed to encourage persons to enter certain fields (or the elimination of such programs with the reverse effect), increased availability, or deletion, of academic programs, changing economic conditions within a career field, etc.

With these limitations in mind, and with consideration of any further limitations which may be inherent in the design of the study itself, this CCHE report of the supply of and demand for elementary and secondary teachers in Wisconsin to the year 1980 is presented as descriptive of current conditions and suggestive of what the future might hold, barring intervention of variables such as those before mentioned.

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CHAPTER I. THE NATIONAL SCENE

Elementary and Secondary Teachers

Elementary and secondary school teaching is the biggest professional occupation in the nation, encompassing about one-fifth of all professional workers. The National Education Association (NEA) reported a total of nearly two million elementary and secondary school teachers in public and private schools during 1969-70, about 1,106,000 at the elementary level and 891,000 at the secondary level. Although teaching has been a large profession for a long time, its growth in the last decade has been particularly rapid. Since 1959-60 the elementary school classroom teaching staff has increased 32.7% while the number of secondary school teachers has increased 71.0% for a total classroom teaching staff increase of 47.4%. The gain in 1969-70 over 1968-69 was 2.8%, bringing the total number of classroom teachers to 1,997,870 in the United States.

Data from NEA and the U. S. Office of Education (USOE) show the growth pattern of the number of classroom teachers over the past ten years:

TABLE I

NUMBERS OF CLASSROOM TEACHERS, 1959-1969

School Year	Elementary-School Classroom Teachers	Secondary-School Classroom Teachers	Total Classroom Teachers
1959-60	833,772	521,186	1,354,958
1960-61	848,853*	554,483*	1,403,336*
1961-62	877,307	580,657	1,457,964
1962-63	893,656*	618,997*	1,512,653*
1963-64	906,606	661,368	1,567,974
1964-65	929,458*	707,263*	1,636,721*
1965-66	974,098	736,790	1,710,888
1966-67	1,006,973*	780,376*	1,787,349*
1967-68	1,044,437*	818,823*	1,863,260*
1968-69	1,079,347*	863,947*	1,943,294*
1969-70	1,106,466*	891,404*	1,997,870*

Source: *Estimates of School Statistics, 1969-1970*; NEA Research Report 1969-R15, p.13

* USOE and NEA estimates

Table II shows the year-by-year percentage increase since 1960-61 in the number of classroom teachers.

TABLE II

PERCENTAGES OF INCREASES IN CLASSROOM TEACHERS, 1960-1970

School Year	Increase in Number of Classroom Teachers Over 1959-60			Increase in Number of Classroom Teachers Over Previous Year		
	Elementary	Secondary	Total	Elementary	Secondary	Total
1960-61	1.8%	6.4%	3.6%	1.8%	6.4%	3.6%
1961-62	5.2	11.4	7.6	3.4	4.7	3.9
1962-63	7.2	18.8	11.6	1.9	6.6	3.8
1963-64	8.7	26.9	15.7	1.4	6.8	3.7
1964-65	11.5	35.7	20.8	2.5	6.9	4.4
1965-66	16.8	41.4	26.3	4.8	4.2	4.5
1966-67	20.8	49.7	31.9	3.4	5.9	4.5
1967-68	25.3	57.1	37.5	3.7	4.9	4.2
1968-69	29.5	65.8	43.4	3.3	5.5	4.3
1969-70	32.7	71.0	47.4	2.5	3.2	2.8

Source: *Estimates of School Statistics, 1969-1970;* NEA Research Report, 1969-R15, p.13

The total instructional staff, which also includes administrators, supervisors, librarians, guidance and psychological personnel as well as teachers, is estimated at 2,217,966. This was an increase of 2.7% over 1968-69 and 51% since 1959-60.

About 235,000, or 15% of the elementary and 10% of the secondary school teachers, were employed by nonpublic schools in 1969-70. These percentages are projected at the same level through 1976 by USOE.

National Elementary and Secondary Student Enrollments

Student enrollments in regular public elementary and secondary schools in the United States increased from 36.0 million in 1959 to 42.9 million in

1964 to an estimated 47,238,087 in 1969-70. This was an increase of 1.6% over 1968-69 and an increase of 31.1% over 1959-60. The nonpublic elementary and secondary school enrollment is estimated to be about 5,700,000 with 4,300,000 elementary and 1,400,000 secondary students. A picture of the public enrollment trends over the past ten years can be seen in the data shown below in Table III.

TABLE III

PUBLIC SCHOOL ENROLLMENTS AND PERCENTAGE OF INCREASE, 1959-1969

School Year	Cumulative Public-School Enrollments (NEA Series)		
	Elementary	Secondary	Total
1959-60	24,538,843	11,499,094	36,037,937
1960-61	25,436,897	12,052,584	37,489,481
1961-62	25,687,137	13,005,450	38,692,587
1962-63	26,162,345	14,194,666	40,390,049
1963-64	26,375,458	15,161,428	41,536,886
1964-65	27,127,448	15,740,118	42,867,566
1965-66	27,672,348	15,904,750	43,577,098
1966-67	28,182,153	16,413,668	44,595,821
1967-68	28,643,977	16,895,013	45,538,990
1968-69	28,797,997	17,696,536	46,494,533
1969-70	29,151,131	18,086,956	47,238,087

School Year	Increase in Cumulative Enrollment Over 1959-60			Increase in Cumulative Enrollment Over Previous Year		
	Elementary	Secondary	Total	Elementary	Secondary	Total
1960-61	3.7%	4.8%	4.0%	3.7%	4.8%	4.0%
1961-62	4.7	13.1	7.4	1.0	7.9	3.2
1962-63	6.6	23.4	12.1	1.8	9.1	4.4
1963-64	7.5	31.8	15.3	0.8	6.8	2.8
1964-65	10.5	36.9	19.0	2.9	3.8	3.2
1965-66	12.8	38.3	20.9	2.0	1.0	1.7
1966-67	14.8	42.7	23.7	1.8	3.2	2.3
1967-68	16.7	46.9	26.4	1.6	2.9	2.1
1968-69	17.4	53.9	29.0	0.5	4.7	2.1
1969-70	18.7	57.3	31.1	1.2	2.2	1.6

Source: *Research Report 1969-R15: Estimates of School Statistics, 1969-70* (Washington, D.C.: Research Division, NEA, 1969), p.9

Elementary school enrollment increased 1.2% from 1968-69 to 1969-70, and since 1959-60 has increased 18.7%. Secondary school enrollment increased 2.2% from 1968-69 to 1969-70, and since 1959-60 has increased an estimated 57.3%.

Secondary school enrollment on a national basis is expected to continue at a high rate of increase in the 1970's, primarily because most of the children who will be progressing through high school in those years were born in the high birthrate years between 1946 and 1961. The rate of enrollment of youths of high-school age has also continued to increase.

Enrollment in grades kindergarten through eight is expected to decrease, or at least level off, during the next decade as a result of lower birth rates of the 1960's. Even if fertility rates should decline, it is likely that the downward trend in enrollments will be reversed by the late 1970's. This is because the increasing number of young mothers in the population will offset any corresponding drop in fertility rates. The effect of birth control upon the birthrate is nearly impossible to predict with any degree of accuracy but, along with other variables, may be expected to have an impact on enrollment estimates.

The proportion of elementary-age children enrolled in school is already so high (about 99% of ages 6-17) that any increase in enrollment rates for this age group will have minimal effect.

School-age population (5-17 years) is the age group which is most significant for predicting the elementary and secondary school enrollments. The trend during the past decade is shown in Table IV.

TABLE IV

SCHOOL-AGE POPULATION & ESTIMATED FALL ENROLLMENTS, 1960-1969

The figures for resident school-age population (5-17 years) and estimated fall enrollment in public elementary and secondary schools for the past 10 years are shown below (NEA Research Division estimates are starred; other fall enrollment figures are from USOE):

School Year	Total Resident School-Age Population As of July 1	Total Fall Enrollment	Percent Enrollment is of School-Age Population
1960-61	44,189,000	36,281,294	82.1%
1961-62	45,303,000	37,464,074	82.7
1962-63	46,698,000	38,748,907	83.0
1963-64	48,005,000	41,025,000	85.5
1964-65	49,536,000	41,339,929*	83.5
1965-66	49,995,000	42,835,000	85.7
1966-67	50,836,000	42,968,286*	84.5
1967-68	51,584,000	43,834,015*	85.0
1968-69	52,269,000*	44,871,742*	85.8
1969-70	52,789,000*	45,484,435*	86.2

Source: NEA Research Report, 1969-R15, p. 8

The school-age population was 20.3% of the total population in 1950 and increased to 24.5% in 1960. The estimated number of persons in this age group was 52,789,000 as of July 1, 1969, which was a gain of 20.3% over April 1, 1960, and accounted for 26.1% of the total resident population.

The latest enrollment data available from the USOE are presented in Table V which follows:

TABLE V

ENROLLMENT IN GRADES K-8 AND 9-12 OF REGULAR DAY SCHOOLS BY INSTITUTIONAL CONTROL: UNITED STATES, FALL 1958-1978[1]

[In Thousands]

Year (Fall)	Total Public and Nonpublic			Public			Nonpublic (Estimated)[2]		
	K-12	K-8	9-12	K-12	K-8[3]	9-12[3]	K-12	K-8	9-12
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1958	39,581	30,504	9,077	34,081	26,004	8,077	5,500	4,500	1,000
1959	40,782	31,511	9,271	35,182	26,911	8,271	5,600	4,600	1,000
1960	42,181	32,492	9,689	36,281	27,692	8,589	5,900	4,800	1,100[4]
1961	43,364	32,895	10,469	37,464	28,095	9,369	5,900	4,800[4]	1,100[4]
1962	44,849	33,537	11,312	38,749	28,637	10,112	6,100	4,900	1,200
1963	46,487	34,304	12,183	40,187	29,304	10,883	6,300	5,000	1,300[4]
1964	47,716	35,025	12,691	41,416	30,025	11,391	6,300	5,000	1,300[4]
1965	48,473	35,463	13,010	42,173	30,563	11,610	6,300	4,900[4]	1,400[4]
1966	49,339	36,045	13,294	43,039	31,145	11,894	6,300	4,900	1,400
1967	49,891	36,241	13,650	43,891	31,641	12,250	6,000	4,600	1,400
1968	50,761	36,640	14,121	44,961	32,240	12,721	5,800	4,400[5]	1,400[5]
				PROJECTED[6]					
1969	51,300	36,800	14,600	45,600	32,500	13,200	5,700	4,300	1,400
1970	51,600	36,600	15,000	46,000	32,400	13,600	5,600	4,200	1,400
1971	51,700	36,300	15,500	46,200	32,200	14,100	5,500	4,100	1,400
1972	51,700	35,800	15,800	46,300	31,800	14,400	5,400	4,000	1,400
1973	51,700	35,500	16,200	46,300	31,500	14,800	5,400	4,000	1,400
1974	51,800	35,300	16,500	46,400	31,300	15,100	5,400	4,000	1,400
1975	51,800	35,100	16,700	46,400	31,100	15,300	5,400	4,000	1,400
1976	51,900	35,100	16,800	46,500	31,100	15,400	5,400	4,000	1,400
1977	52,100	35,200	16,900	46,700	31,200	15,500	5,400	4,000	1,400
1978	52,300	35,500	16,800	46,900	31,500	15,400	5,400	4,000	1,400

[1]Does not include independent nursery schools and kindergartens, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, schools on Federal installations, and other schools not in the regular school system.

[2]Estimates revised spring 1968 on basis of 1965 Office of Education survey.

[3]Fall enrollment in public schools not reported by grade prior to 1962; grade breakdown for years 1958 through 1961 estimated from school year enrollment.

[4]Actual data from Office of Education surveys.

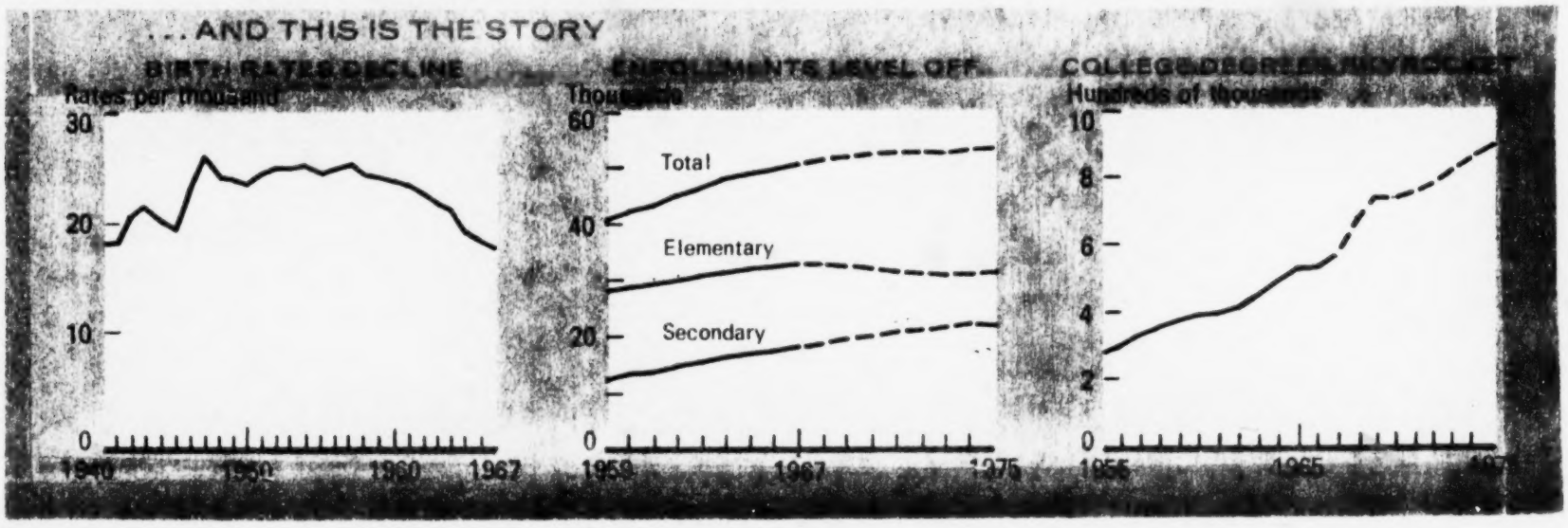
[5]Data from the 1968 survey of nonpublic schools were received too late for inclusion in this table.

[6]The projection of fall enrollment in regular day schools is based on the following assumptions: (1) Enrollment rates of the 5-, 6-, and 7-year-old population in public school kindergarten and grades 1 and 2 will follow the 1958-1968 trends; (2) the retention rate of public school grade 7 from grade 6 will remain constant at 104 percent from 1972 through 1978; (3) the retention rates of public school grade 9 from grade 8 will follow the 1958-1968 trend with the restriction that the rate cannot exceed 105 percent; (4) the retention rates of all other public school grades will follow the 1958-1968 trends with the restriction that they cannot exceed 100 percent; and (5) enrollment in grades K-8 in regular nonpublic day schools will decrease to 1972 and then remain constant to 1978; grades 9-12 will remain constant at the 1968 level.

The projections show a small decrease in public elementary enrollments (K-8) from 1970 to 1977 and a small gradual increase in the number of secondary students to 1977. Nonpublic enrollments are expected to decline until 1972 and then hold steady until 1978 at which time the nonpublic enrollment would be approximately 10% of the total enrollment as compared to about 11% in 1968. A number of nonpublic schools have ceased operation in recent years but the extent to which this will continue, on either a state or national basis, is difficult to predict.

Teacher Supply and Demand: The National Scene

The 1969 study of teacher supply and demand by the NEA Research Division indicates that the long period of a general shortage of qualified teachers on both the elementary and secondary levels has come to an end. This is the result of a rising supply of teachers and smaller enrollment increases which follow the drop in the birthrate. A Bureau of Labor Statistics analysis depicts the situation as follows:



Source: Ludmilla K. Murphy, *Teaching Shortage to Ease*, Occupational Outlook Quarterly, September 1968, pp. 36-37

Before proceeding, some definitions are necessary. In the CCHE study, "demand" is used in the economic sense and refers to the existence of positions and funds to employ persons. "Need" is used in the social sense of the projected number of people who would be necessary to meet some social goal or ideal. "Supply" refers to the number of teachers available, from whatever source, to fill the vacant positions.

The demand for teachers can be divided into three components: (1) replacement of persons who leave the profession by death, retirement, career changes, etc., (2) additional new positions created because of increased enrollment, program change, etc., and (3) requirements for raising the educational level. The demand for teachers largely falls within the first two categories.

A summary of the national picture of teacher supply and demand as reported by the states for the period 1968-1969 is shown in Table VI.

TABLE VI

RESPONSES TO THE SPECIAL SURVEY OF TEACHER SUPPLY AND DEMAND IN SUMMER 1969, BY STATE

State	Number of qualified teacher applicants compared with vacancies in fall 1969				Supply and demand conditions in fall 1969 compared with 1968				
	Substantial shortage	Some shortage	Sufficient appliciants to fill positions	Shortage in some subjects	Some excess	More acute	About same	Less acute	Much less acute
1	2	3	4	5	6	7	8	9	10
Alabama		X						X	
Alaska					X			X	
Arizona				X				X	
Arkansas				X			X		
California					X			X	
Colorado				X				X	
Connecticut	X						X		
Delaware	(Information not available)								
Florida				X				X	
Georgia				X			X		
Hawaii				X				X	
Idaho		X			(Information not available)				
Illinois		X						X	
Indiana				X				X	
Iowa	X							X	
Kansas				X			X		
Kentucky				X					X
Louisiana				X			X		
Maine				X				X	
Maryland				X			X		
Massachusetts				X				X	
Michigan			X						X
Minnesota		X					X		
Mississippi				X				X	
Missouri		X					X		
Montana				X				X	
Nebraska				X			X		
Nevada				X			X		
New Hampshire		X						X	
New Jersey				X			X		
New Mexico				X			X		
New York				X					X
North Carolina		X					X		
North Dakota		X					X		
Ohio				X				X	
Oklahoma				X			X		
Oregon				X				X	
Pennsylvania		X						X	
Rhode Island		X						X	
South Carolina		X					X		
South Dakota		X						X	
Tennessee				X			X		
Texas				X	(Information not available)				
Utah				X				X	
Vermont				X				X	
Virginia				X				X	
Washington				X				X	
West Virginia				X				X	
Wisconsin				X				X	
Wyoming				X			X		
Total number of states ..	2	12	1	32	2	0	18	26	3

Source: NEA Research Report, 1969-R14, p. 76

Two of the states reporting, Alaska and California, had an excess of applicants, and one, Michigan, reported a sufficient number to fill all positions. Other states, Wisconsin included, reported "some shortage" or a shortage in some subject areas. Only two states, Connecticut and Iowa, indicated a "substantial shortage" of teacher applicants. Between 1966 and 1969, the number of states reporting a "substantial shortage of applicants" was reduced from 20 to 2.

Table VI shows that in 26 states, the situation concerning qualified teacher applicants was "less acute" than a year earlier. Three states reported conditions as "much less acute." No state considered the situation as "more acute" than in 1968.

Out of 41 states which reported by population areas, according to the NEA study, 38 had a shortage of applicants in rural areas; 20 in small cities; 16 in central cities or large urban centers, and 7 in suburban areas.

The state education agencies and large school systems which participated in the NEA study of teacher supply and demand reported "extreme difficulty" in finding qualified teachers for certain assignment or subject areas. The most critical were mathematics, physical sciences, industrial arts, special education, some vocational-technical subjects, women's physical education, and elementary librarian and guidance counselors.

The assignment areas identified in the annual national survey as having an inadequate supply of teachers are also reported as being in short supply by significant numbers of the 76 large school systems included in the study. A summary of the positions which districts had "extreme difficulty" in filling as reported late in July of 1969 is as follows:

TABLE VII

NATIONAL TEACHER SHORTAGES BY ASSIGNMENT AREAS (July, 1969)

Assignment	No. of Systems Having EXTREME DIFFICULTY in Filling Position	No. of Positions Not Filled	No. of Persons Reported Employed With Substandard Qualifications
Industrial Arts	46	288	15
Special Education	29	627	22
Mathematics	27	398	21
Trade, Industrial, Vocational	21	116	9
Natural and Physical Sciences	14	146	12
Physical Education (Women)	11	167	6
Instruction of Educationally Disadvantaged	11	194	--
Remedial Reading, Speech, etc.	9	205	--
Librarians	8	123	--
Elementary, Regular Instruction	2	1,140	12

Source: NEA Research Report, 1969-R14, p.7

Teacher Demand

An overview of the demand for new and beginning teachers is presented in this section. A new teacher is defined as a person entering or reentering active status who was not employed as a full-time teacher during the preceding school year. A beginning teacher is one who is employed as a full-time teacher for the first time.

As mentioned previously, demand has several components: that resulting from increased enrollments; that resulting from replacement requirements and that due to new programs.

The demand caused by increasing enrollments can be projected quite accurately for at least a decade into the future. This part of the demand will be relatively small over most of the decade of the 70's due to the decreasing rate of enrollment increases.

Over the past decade, the replacement of teachers who have died, retired, or left for other reasons has in the past accounted for more than two-thirds of the demand. A predominant characteristic of occupations that employ a large proportion of women is the high loss rate due to leaving the labor force to rear families. Also, because occupations which employ large numbers of women often offer relatively low salaries, the loss rate for men is raised as well.

The projection shown in Table VIII of the replacement demand for the decade ahead puts it at a constant 8% a year which constitutes nearly 80% of the total demand. It is difficult to estimate the replacement demand because it will fluctuate with employment conditions. Death and retirement make up only about a quarter of the 8% total replacement rate shown. The remaining loss is made up of people who enter other jobs, stop work for family reasons, are promoted to administrative positions, or go on to earn an advanced degree.

The third component of demand, the effect of new programs, is the most difficult to project. Will new programs of compensatory education for disadvantaged children be initiated? Will preschool nursery programs become a part of the regular school program? If more paraprofessionals are integrated into the organizational plan, will this increase productivity and cut down the demand for additional teachers? It is estimated that if kindergarten and nursery school programs were expanded over the next decade, the proportion of the 3, 4 and 5-year olds enrolled in school could increase from 25% to 50% of the age group, which would require between 100,000 to 125,000 additional teachers by 1975, depending on the

birthrate. If the expansion of preschool programs takes place at a regular pace, 10,000 to 12,500 additional teachers would be required each year during the next decade.*

Table VIII shows projections based upon enrollment estimates and a replacement factor of 8% of the total number of teachers employed. It is not possible to estimate the effect of new programs, economic factors and other variables.

The table shows a decreasing demand for elementary and secondary teachers beginning in the early seventies. The total demand in 1980 is projected to be 180,000, which is approximately what it was in 1960.

Two methods of making estimates of demand for new teachers are presented by the NEA Research Division. The Quality Criterion Estimate (QCE) is based on the number of new teachers needed to achieve immediately a standard of minimum quality in the staffing of public school classrooms. Components in this estimate include:

1. number of new teachers needed to fill new positions being created because of enrollment changes;
2. number of new teachers needed to replace those who are interrupting or terminating their careers;
3. the number of teachers having substandard professional qualifications who need to be upgraded or replaced;
4. the number of teachers needed to reduce overcrowded class sizes to reasonable maximum sizes;
5. the number of new teachers needed to provide adequate staffing of new educational offerings, added special instructional services, and reorganization for instruction.

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* *Human Resources in Higher Education*, Folger, Astin, and Bayer, pp. 104-105

TABLE VIII

PROJECTED DEMAND FOR NEW ELEMENTARY AND SECONDARY TEACHERS: 1959-1980 [Figures in 000's]

Year	Demand Filled By New College Graduates	Demand Filled By Experienced Returnees	Total Demand	For Enrollment Growth	For Replacement
1959	125	41	166	55	111
1960	134	44	178	63	115
1961	137	46	183	63	120
1962	146	48	194	60	134
1963	156	52	208	80	128
1964	158	52	210	75	135
1965	157	52	209	70	139
			PROJECTED		
1966	173	57	230	82	148
1967	170	56	226	70	156
1968	166	55	221	61	160
1969	158	53	211	46	165
1970	161	53	214	46	168
1971	161	54	215	45	170
1972	155	52	207	35	172
1973	157	52	209	35	174
1974	158	52	210	35	175
1975	158	53	211	33	178
1976	147	49	196	15	181
1977	135	45	180	0	180
1978	135	45	180	0	180
1979	135	45	180	0	180
1980	135	45	180	0	180

Source: Projections of replacement needs from U. S. Office of Educational Statistics to 1975-76. Enrollment growth projection from Commission on Human Resources and Advanced Education. Projections include the estimated effect of the Elementary and Secondary Education Act of 1965. Experienced returnees are projected at 25 percent of total demand.

This estimate shows the demand for teachers required by a minimum level of quality in the staffing practices applied to all classrooms, without consideration to the obstacles to attaining this standard immediately.

The second method of making estimates is the Adjusted Trend Criterion Estimate (ATCE). This provides an estimate of the number of new teachers who will be actually employed by public school systems, as indicated by recent staffing practices. In this case, the estimates are projected from information about the numbers of new teachers employed in recent years. This estimate of the demand for new teachers reflects a continuation of current trends toward improved staffing conditions rather than immediate achievement of the standards of minimum quality in the staffing of classrooms provided by the Quality Criterion Estimate.

The differences in demand for the different estimates are shown below in figures prepared by NEA for the year 1969.

Base	Number of New Teachers in Demand for Fall 1969		
	Elementary	Secondary	Total
Adjusted Trend Criterion Estimate	107,400	108,300	215,700
Quality Criterion Estimate	290,950	192,450	483,400

A total of 483,400 new teachers would have been needed in 1969-70 to meet the QEC rather than the 215,700 necessary on the ATCE. An estimate of the demand for beginning teachers may be obtained by subtracting the 34,500 elementary and 25,900 secondary school teachers expected to reenter the profession.

The distribution of teachers among teaching assignments in the secondary schools shown in Table IX provide an estimate of the comparative demand between these areas.

TABLE IX

THREE ESTIMATES OF THE PERCENT DISTRIBUTION OF SECONDARY-SCHOOL TEACHERS BY MAJOR ASSIGNMENT

Major assignment	Percent of secondary-school teachers		
	Seventeen states reporting in 1967-68	Seventeen states reporting in 1968-69	Median of five sampling surveys
1	2	3	4
Agriculture	1.3%	1.9%	1.4%
Art	2.4	2.2	2.1
Business education ...	5.9	5.5	6.0
Distributive education	0.4	0.6	a/
English language arts.	18.4	18.3	21.5
Foreign languages	4.7	3.9	4.9
Home economics	4.3	4.6	4.5
Industrial arts	3.9	3.6	4.4
Junior high school ...	0.7	1.3	a/
Mathematics	12.0	11.7	14.1
Music	4.1	4.2	3.5
Physical and health education	8.3	7.6	6.9
Science	10.9	10.2	12.1
Social studies	13.1	12.3	14.8
Trade, industrial, vocational, technical	2.2	1.8	1.7
Special education	2.5	3.6	0.9
Other	4.9	6.7	1.2
Total	100.0%	100.0%	100.0%

a/ Category not used in tabulating staff by major assignment.

Source: NEA Research Report 1969-R14, p. 34

As would be expected, the major subject areas of English, mathematics, science and social studies encompass the majority of the secondary teachers--62.5%. The dozen other major assignment areas require only approximately 38% of all secondary teachers.

About 55% of the teachers are employed at the elementary (K-8) level. This has decreased from about 62% ten years ago. Of the new teachers reported by 24 states responding to an NEA survey in 1968-69, 48% were employed in elementary schools, a decrease from 54% ten years ago. This shows a gradual reduction in the proportion of all public school teachers being assigned to elementary schools. The change is revealed also in the percents of new teachers being assigned to elementary schools. This would suggest that the relatively greater annual demand for new (reentering and beginning) teachers in elementary schools has been decreasing, and that in recent years the demand for new elementary school teachers has not been widely different from the demand for new secondary school teachers.

The numbers of teachers who may be expected to reenter active full-time employment following an interruption of at least a year influence the demand for beginning teachers. The rate of reentry the past two years is estimated to be 3.2% of all elementary and 3.0% of all secondary teachers. Figures from the USOE surveys in 1958 and 1960 showed that returning teachers constituted 27 and 34 percent, respectively of all newly hired teachers.

A number of other factors influence the demand for new teachers. The USOE estimated that in 1969 the nonpublic schools would need 10,000 new teachers. About 1,500 to 2,000 new teachers are needed each year in the overseas dependent schools. Replacement for an increasing number of experienced teachers may be required as a result of increasing interest in advanced training. Additional vacancies will be created for new teachers as experienced teachers accept specialized positions. The provision of funds to fill positions outside the classroom, in areas such as remedial reading and social work, will also attract an unknown number of teachers. There is no documentation of the effects of such programs upon supply and demand.

Teacher Supply

There are three major sources of qualified teachers: (1) current graduates of teacher education programs, (2) former teachers who want to reenter the profession, and (3) teacher education graduates of previous years who want to enter the profession for the first time.

The supply of college graduates prepared to teach is large and is increasing each year. In the past five years, about one-third of all college graduates have been qualified to teach, although not all of them actually enter the field upon graduation.

Between September 1, 1968, and August 31, 1969, it was estimated that 109,394 prospective elementary school teachers and 160,756 prospective secondary school teachers completed a minimum of a bachelor's degree. The NEA also reported the following number of new prospective candidates by subject area: 7,702 in special education, 2,043 school librarians, 4,331 guidance counselors, and 3,300 other graduates prepared for careers such as school psychologist, nurse, and social worker.

During the past ten years it is estimated by NEA that approximately 81% of the elementary and 67% of the secondary education graduates actually entered active teaching status each year during the session following their graduation. This would mean that about 88,172 elementary and 107,385 high school teachers were available from this source in the fall of 1969, the last year for which figures were available. Table X shows by type of teaching preparation the number of students receiving a bachelor's degree in 1968 and 1969.

TABLE X

COLLEGE STUDENTS COMPLETING BACHELOR'S DEGREE, 1969 AND 1968, BY FIELD

LINE NO	TYPE OF PREPARATION	1969 MEN	1969 WOMEN	1969 TOTAL	1968 MEN	1968 WOMEN	1968 TOTAL	1968 TO 1969 NET CHANGE	1968 TO 1969 PERCENT CHANGE
1	2	3	4	5	6	7	8	9	10
	ELEMENTARY-SCHOOL TOTAL	9,821	85,441	95,405	8,533	77,611	86,144	+ 9,261	+ 10.8
1	REGULAR INSTRUCTION	8,977	83,240	92,357	7,689	75,517	83,206	+ 9,151	+ 11.0
	SELECTED SUBJECTS(TOTAL)	844	2,198	3,048	844	2,094	2,938	+ 110	+ 3.7
2	ART	160	820	984	151	729	880	+ 104	+ 11.8
3	FOREIGN LANGUAGES	17	228	247	24	248	272	- 25	- 9.2
4	MUSIC	265	716	981	251	692	943	+ 38	+ 4.0
5	PHYSICAL & HEALTH EDUCATION	402	434	836	418	425	843	- 7	- .8
	SECONDARY SCHOOL								
6	AGRICULTURE	1,313	87	1,400	1,133	78	1,211	+ 189	+ 15.6
7	ART	1,629	4,202	5,831	1,353	3,388	4,741	+ 1,090	+ 23.0
8	BUSINESS EDUCATION	2,846	6,282	9,153	2,142	5,695	7,837	+ 1,316	+ 16.8
9	DISTRIBUTIVE EDUCATION	251	129	380	253	107	360	+ 20	+ 5.6
	ENGLISH LANGUAGE ARTS(TOTAL)	6,516	21,279	27,805	5,173	18,766	23,939	+ 3,866	+ 16.1
10	ENGLISH	5,221	18,404	23,635	4,208	16,394	20,602	+ 3,033	+ 14.7
11	JOURNALISM	88	196	284	56	130	186	+ 98	+ 52.7
12	SPEECH AND DRAMATIC ARTS	1,207	2,679	3,886	909	2,242	3,151	+ 735	+ 23.3
	FOREIGN LANGUAGES(TOTAL)	1,708	7,156	8,864	1,428	6,233	7,661	+ 1,203	+ 15.7
13	FRENCH	490	3,097	3,587	376	2,734	3,110	+ 477	+ 15.3
14	GERMAN	277	682	959	256	577	833	+ 126	+ 15.1
15	LATIN	113	263	376	115	276	391	- 15	- 3.8
16	RUSSIAN	45	84	129	26	85	111	+ 18	+ 16.2
17	SPANISH	738	2,846	3,584	617	2,409	3,026	+ 558	+ 18.4
18	OTHER	45	184	229	38	152	190	+ 39	+ 20.5
19	HOME ECONOMICS	13	6,911	6,924	5	6,277	6,282	+ 642	+ 10.2
20	INDUSTRIAL ARTS	4,436	39	4,475	3,730	18	3,748	+ 727	+ 19.4
21	JUNIOR HIGH SCHOOL(GENERAL)	344	412	760	320	336	656	+ 104	+ 15.9
22	MATHEMATICS	5,345	5,277	10,628	4,339	4,728	9,067	+ 1,561	+ 17.2
23	MUSIC	3,015	3,727	6,742	2,492	3,251	5,743	+ 999	+ 17.4
24	PHYSICAL & HEALTH EDUCATION	9,675	6,380	16,055	7,766	5,538	13,304	+ 2,751	+ 20.7
	NATURAL & PHYSICAL SCIENCES (TOTAL)	6,351	3,902	10,259	5,267	3,332	8,599	+ 1,660	+ 19.3
25	SUBJECT NOT SPECIFIED	913	529	1,442	710	409	1,119	+ 323	+ 28.9
26	GENERAL SCIENCE	775	398	1,176	732	373	1,105	+ 71	+ 6.4
27	BIOLOGY	3,417	2,516	5,936	2,835	2,150	4,985	+ 951	+ 19.1
28	CHEMISTRY	859	401	1,260	660	341	1,001	+ 259	+ 25.9
29	PHYSICS	387	58	445	330	59	389	+ 56	+ 14.4
	SOCIAL STUDIES(TOTAL)	16,969	11,702	28,691	13,582	9,447	23,029	+ 5,662	+ 24.6
30	SUBJECT NOT SPECIFIED	7,576	4,932	12,520	6,602	4,336	10,938	+ 1,582	+ 14.5
31	HISTORY, GEOGRAPHY	6,987	4,868	11,863	5,209	3,845	9,054	+ 2,809	+ 31.0
32	ECONOMICS, SOCIOLOGY, PSYCHOLOGY	1,265	1,220	2,485	807	763	1,570	+ 915	+ 58.3
33	OTHER SOCIAL STUDIES	1,141	682	1,823	964	503	1,467	+ 356	+ 24.3
34	TRADE, INDUSTRY, TECHNOLOGY	581	35	616	491	33	524	+ 92	+ 17.6
35	OTHER SECONDARY SUBJECTS	366	289	655	138	168	306	+ 349	+114.1
	SECONDARY-SCHOOL TOTAL	61,358	77,809	139,238	49,612	67,395	117,007	+22,231	+ 19.0
	UNGRADED								
36	SPECIAL EDUCATION	810	4,656	5,466	769	3,946	4,715	+ 751	+ 15.9
37	LIBRARIAN	100	917	1,017	100	778	878	+ 139	+ 15.8
38	GUIDANCE COUNSELOR	125	121	246	164	116	280	- 34	- 12.1
39	SCHOOL PSYCHOLOGIST	26	31	57	32	29	61	- 4	- 6.6
40	SCHOOL SOCIAL WORKER	8	47	55	8	58	66	- 11	- 16.7
41	SCHOOL NURSE	2	219	221	10	348	358	- 137	- 38.3
42	OTHER UNGRADED	225	653	929	182	694	876	+ 53	+ 6.1
	GRAND TOTAL	72,475	169,894	242,634	59,410	150,975	210,385	+32,249	+ 15.3

Source: NEA Research Report, 1969-R14, p.9

The number of elementary school teachers increased 10.8% compared to a 19.0% increase for secondary trained teachers. The total, including special ungraded areas, increased 15.3% from 1968 to 1969. Not included in Table X are the 13,989 elementary and 21,518 secondary graduates who completed a master's degree as the first requirement for entering the profession in 1968-69. These graduates represent 12.8% and 13.4%, respectively, of the total number of persons completing for the first time requirements for entering the profession.

A review of the numbers of persons graduating with the bachelor's and first professional degrees as a percent of the total bachelor's and first professional degrees awarded provides a perspective of the supply of potential teachers. This is shown in Table XI.

TABLE XI

TEACHER EDUCATION GRADUATES AS PERCENT OF
TOTAL BACHELOR'S AND FIRST PROFESSIONAL DEGREE CLASS

Year	Elementary School	Secondary School	Total
1950	6.6%	20.1%	26.7%
1952	11.4	18.6	30.0
1954	12.6	16.8	29.4
1956	13.2	18.3	31.5
1958	12.5	19.0	31.5
1960	13.4	19.8	33.2
1962	13.8	20.2	34.1
1964	14.5	20.4	34.9
1965	14.8	21.4	36.2
1966*	14.1	22.2	36.2
1967*[1]	14.3	23.6	37.9
1968*	13.3	21.0	34.3
1969* Est.	14.1	23.3	37.4

Source: NEA Research Report, 1969-R14, p. 17

* Persons completing preparation to teach specific subjects are grouped within high school category as in earlier studies of this series. Total does not include the graduates prepared to enter supporting ungraded positions.

[1] A few institutions in two states did not respond in 1968.

A comparison of supply of beginning teachers by states can be made from Table XII:

TABLE XII

COLLEGE STUDENTS RECEIVING DEGREES AND PREPARATION TO TEACH IN ELEMENTARY AND SECONDARY SCHOOLS, 1969 AND 1968, BY STATE

STATE	BACHELOR'S AND MASTER'S COMBINED			
	TOTAL, 1969	TOTAL, 1968	NET CHANGE	PERCENT CHANGE
1	2	3	4	5
ALABAMA	4,584	3,802	+ 782	+20.6
ALASKA	126	80	+ 46	+57.5
ARIZONA	3,069	2,858	+ 211	+ 7.4
ARKANSAS	3,525	2,843	+ 682	+24.0
CALIFORNIA	11,820	10,080	+ 1,740	+17.3
COLORADO	3,671	3,613	+ 58	+ 1.6
CONNECTICUT	3,552	3,175	+ 377	+11.9
DELAWARE	440	342	+ 98	+28.7
DISTRICT OF COLUMBIA	489	572	- 83	-14.5
FLORIDA	6,010	5,213	+ 797	+15.3
GEORGIA	4,542	3,796	+ 746	+19.7
HAWAII	707	701	+ 6	+ .9
IDAHO	1,143	940	+ 203	+21.6
ILLINOIS[a]	15,662	12,310	+ 3,352	+27.2
INDIANA	7,388	6,000	+ 1,388	+23.1
IOWA	5,411	4,457	+ 954	+21.4
KANSAS	4,495	4,096	+ 399	+ 9.7
KENTUCKY	5,712	4,821	+ 891	+18.5
LOUISIANA	4,555	3,925	+ 630	+16.1
MAINE	1,254	1,118	+ 136	+12.2
MARYLAND	3,311	2,846	+ 465	+16.3
MASSACHUSETTS[a]	7,959	6,674	+ 1,285	+19.3
MICHIGAN	13,571	11,696	+ 1,875	+16.0
MINNESOTA	6,593	5,794	+ 799	+13.8
MISSISSIPPI	4,690	3,500	+ 1,190	+34.0
MISSOURI	6,104	5,841	+ 263	+ 4.5
MONTANA	1,710	1,393	+ 317	+22.8
NEBRASKA	3,827	3,368	+ 459	+13.6
NEVADA	394	244	+ 150	+61.5
NEW HAMPSHIRE	1,026	858	+ 168	+19.6
NEW JERSEY	6,986	6,840	+ 146	+ 2.1
NEW MEXICO	1,337	1,332	+ 5	+ .4
NEW YORK[a]	31,132	20,186	+10,946	+54.2
NORTH CAROLINA[a]	6,370	5,404	+ 966	+17.9
NORTH DAKOTA	1,992	1,589	+ 403	+25.4
OHIO	13,375	11,784	+ 1,591	+13.5
OKLAHOMA	4,925	4,479	+ 446	+10.0
OREGON	3,393	3,094	+ 299	+ 9.7
PENNSYLVANIA	14,882	13,942	+ 940	+ 6.7
RHODE ISLAND	1,367	1,030	+ 337	+32.7
SOUTH CAROLINA	2,179	1,992	+ 187	+ 9.4
SOUTH DAKOTA	2,294	1,980	+ 314	+15.9
TENNESSEE	6,023	5,133	+ 890	+17.3
TEXAS	14,863	12,215	+ 2,648	+21.7
UTAH	2,962	2,544	+ 418	+16.4
VERMONT	618	558	+ 60	+10.8
VIRGINIA	3,956	3,372	+ 584	+17.3
WASHINGTON	4,220	4,051	+ 169	+ 4.2
WEST VIRGINIA	2,735	2,593	+ 142	+ 5.5
WISCONSIN	6,730	5,360	+ 1,370	+25.6
WYOMING	471	373	+ 98	+26.3
TOTAL	270,150	226,807	+43,343	+19.1

a/ Number of 1968 graduates estimated in 1968 in Illinois was 6,694; in Massachusetts, 5,257; in New York, 27,961; and in North Carolina, 6,281.

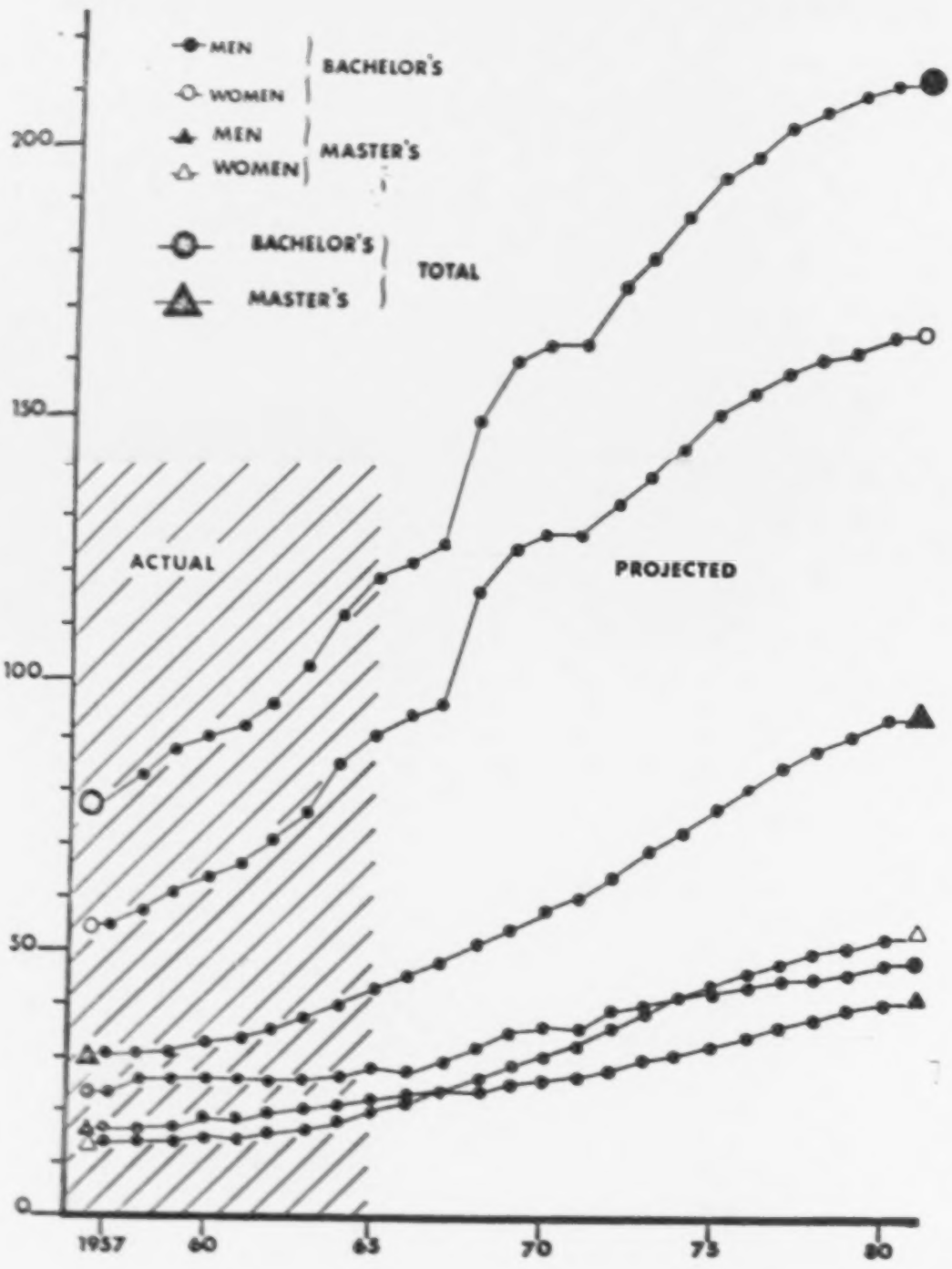
Source: NEA Research Report, 1969-R14, p. 18

Changes in the total numbers prepared as teachers in 1969 range from an increase of 10,946 in New York to a reduction of 83 in the District of Columbia. The total increase for all the states was 19.1%. Wisconsin graduated 1,370 more teachers in 1969 than 1968 for an increase of 25.6%.

An idea of the past and projected supply of beginning teachers can be obtained from a Staff Report of the Commission on Human Resources and Advanced Education. Figure 1 presents the number of bachelor's and master's degrees in education from 1957-1980.

FIGURE 1

ACTUAL AND PROJECTED NUMBER OF BACHELOR'S AND MASTER'S DEGREES IN EDUCATION, BY SEX: 1957-1980 [Figures in 000's]



Source: *Human Resources and Higher Education*, p. 109

This is an independent set of projections based on past trends in the ratio of enrollments to population and to degrees at lower level.

The numbers of teacher education graduates who become teachers immediately upon completion of their training varies by teaching assignment and state. For 1968, the latest year for which figures were available, 78.5% of the elementary and 64.6% of the secondary education graduates entered the teaching profession. The employment status is not known for 14.8%. Only 41.3% of the trade, vocational, and technical grouping entered teaching--the lowest percentage of all. Junior high teaching ranks highest with 83.6%. Table XIII shows the number and location of persons taking positions in the fall of 1968 by states.

TABLE XIII

LOCATION OF PERSONS WHO WERE GRADUATED BETWEEN SEPTEMBER 1, 1967, AND AUGUST 31, 1968, WITH QUALIFICATIONS FOR STANDARD CERTIFICATES AND WHO ENTERED TEACHING, 44 STATES AND D. C. REPORTING

STATE	ELEMENTARY SCHOOL				SECONDARY SCHOOL			
	NUMBER	PERCENT TEACHING IN STATE	PERCENT TEACHING OUTSIDE STATE	TOTAL	NUMBER	PERCENT TEACHING IN STATE	PERCENT TEACHING OUTSIDE STATE	TOTAL
1	2	3	4	5	6	7	8	9
ALABAMA	1,289	53.1	22.7	75.9	2,366	44.1	16.6	60.7
ARIZONA	1,220	45.2	26.3	71.5	1,606	31.9	17.7	49.7
ARKANSAS	664	55.6	17.2	72.7	1,665	46.3	18.7	65.0
CALIFORNIA	4,384	78.9	2.4	81.3	4,104	77.6	1.8	79.4
COLORADO	1,127	40.3	17.5	57.8	2,486	29.6	16.9	46.5
CONNECTICUT	1,398	73.9	12.6	86.5	1,481	61.1	13.4	74.5
DELAWARE	163	57.1	26.4	83.4	197	33.5	17.3	50.8
DISTRICT OF COLUMBIA	75	10.7	69.3	80.0	112	25.0	42.0	67.0
FLORIDA	2,322	39.4	6.5	46.0	2,891	37.5	6.1	43.6
GEORGIA	1,745	73.5	11.1	84.6	2,587	55.4	12.0	67.4
HAWAII	404	30.0	12.4	42.3	233	38.6	7.7	46.4
IDAHO	399	46.1	30.6	76.7	538	40.1	24.7	64.9
ILLINOIS	4,631	68.6	15.8	84.4	6,141	55.5	9.5	65.1
INDIANA	1,621	59.0	26.2	85.2	2,732	45.1	18.6	63.8
IOWA	1,867	53.5	31.9	85.3	2,716	44.8	25.0	69.8
KANSAS	1,723	61.1	20.4	81.5	2,373	47.6	14.7	62.2
LOUISIANA	1,672	67.2	7.7	74.9	2,187	51.1	6.9	57.9
MAINE	376	63.6	21.3	84.8	737	53.2	16.1	69.3
MARYLAND	1,269	70.9	9.9	80.9	1,455	54.8	10.1	64.9
MASSACHUSETTS	3,099	51.3	17.4	68.7	3,063	40.2	12.3	52.5
MICHIGAN	5,319	72.1	10.9	83.0	5,982	54.3	9.7	64.0
MINNESOTA	2,381	66.7	18.5	85.1	3,427	55.0	17.8	72.8
MISSISSIPPI	1,143	54.4	19.3	73.8	2,195	51.6	13.1	64.7
MISSOURI	2,030	65.0	18.1	83.1	3,230	48.7	18.4	67.1
MONTANA	571	45.2	20.5	65.7	807	43.7	19.6	63.3
NEBRASKA	1,332	45.7	38.1	83.9	1,939	49.8	21.9	71.6
NEVADA	59	39.0	20.3	59.3	97	27.8	18.6	46.4
NEW HAMPSHIRE	237	40.9	42.6	83.5	266	36.8	31.6	68.4
NEW MEXICO	232	58.2	20.7	78.9	427	50.6	20.1	70.7
NEW YORK	8,673	68.2	7.1	75.2	8,847	55.7	4.9	60.6
NORTH CAROLINA	1,845	54.9	21.9	76.8	3,304	46.2	18.6	64.8
NORTH DAKOTA	513	48.1	33.3	81.5	1,069	42.2	29.0	71.2
OREGON	1,341	55.6	15.5	71.1	1,753	44.8	12.5	57.3
PENNSYLVANIA	5,611	66.2	19.1	85.2	8,331	53.7	17.1	70.8
RHODE ISLAND	487	61.8	22.2	84.0	567	42.3	18.2	60.5
SOUTH CAROLINA	656	54.1	21.0	75.2	1,172	47.3	14.2	61.5
SOUTH DAKOTA	725	54.9	35.4	90.3	1,254	34.6	39.5	74.1
TEXAS	5,290	70.8	7.2	78.0	5,887	58.6	7.5	66.1
UTAH	1,038	53.9	23.5	77.4	1,506	39.6	22.5	62.1
VERMONT	216	54.6	29.2	83.8	193	32.1	24.9	57.0
VIRGINIA	1,243	69.1	11.9	81.0	1,824	55.4	10.9	66.3
WASHINGTON	2,009	71.1	11.4	82.6	2,237	55.4	11.5	67.0
WEST VIRGINIA	747	51.8	25.7	77.5	1,846	35.4	22.8	58.2
WISCONSIN	2,198	64.7	20.2	84.8	3,015	60.5	15.4	75.8
WYOMING	118	52.5	22.9	75.4	255	42.0	24.3	66.3

Source: NEA Research Report, 1969-R14, p. 26

The percent of prospective teachers graduated in each state in 1968 who entered the teaching profession by November of 1969 are shown in the table. Also shown are the percentages of teacher education graduates who entered teaching last year and were employed in states other than those in which they were prepared. The differences in "holding power" of the states is influenced by the differences in the demand for beginning teachers and the extent to which nonresident students are enrolled. The between state differences of the percent of graduates who leave the state in which they were prepared is substantial. The elementary level graduates who leave varies from 2.4% in California to 42.6% in New Hampshire. For secondary level graduates the range was from 1.8% in California to 39.5% in South Dakota. Wisconsin had 20.2% of the elementary and 15.4% of the secondary prepared graduates leave the state for a teaching position. The NEA cites limitations of interpretation of comparisons based on these data because of differences in the supply and demand situation in these states, differences in the numbers of nonresident prospective teachers being educated in the states, and differences in the percent of teacher education graduates for whom follow-up information is available.

Of the approximately 30% of the 191,326 graduates who did not enter teaching immediately upon graduation in 1968-69, the NEA gives the following breakdown by total numbers and percentages:

571 or .3%	- sought nonteaching jobs
3,056 or 1.6%	- sought teaching jobs
3,056 or 1.6%	- entered military service
4,960 or 2.6%	- entered full-time homemaking
7,258 or 3.8%	- otherwise gainfully employed
9,168 or 4.8%	- continued formal study
28,841 or 15.1%	- no information available

The proportion of graduates known to be seeking a teaching position in November following their graduation (1.6%) is slightly above the level reported for 1967 (.9%). The highest percent of graduates seeking a position were in foreign languages (3.5%), art (2.9%), social studies (2.9%), speech and drama (2.3%), and English (2.3%). The lowest proportion of graduates in a given field still seeking a teaching position were: elementary school foreign languages (0%), elementary school physical education, junior high school subjects, trade-industrial-vocational subjects, and

agriculture (0.3%), elementary school music (0.4%) natural and physical sciences not specified (0.5%), industrial arts (0.6%), guidance counseling (0.7%), and mathematics (0.8%).

The other source of supply to fill positions in teaching are the thousands of persons who have completed the requirements for certification but are not now teaching. This pool includes graduates who never taught as well as those who retired or otherwise left the teaching profession. In 1960 the U. S. Bureau of Census estimated that there were nearly 305,000 persons who were qualified but were not teaching. Based on the assumption that this pool contains the 20-year accumulation of about 1.5% of the teacher each year suggests that this reserve has increased to about 405,000 persons during the period from 1960 to 1968.

A survey conducted by the NEA Research Division in 1959-60 noted that 44.1% of public school teachers had interrupted their careers since beginning teaching. The mean length of interruption was 8.3 years. About 7.5% of the teachers had interrupted their careers for longer than 15 years. A similar study in 1965-66 showed that only 37.8% of the teachers had interrupted their careers since beginning teaching.

New Teachers - Supply vs. Demand

An approximation of the current status of teacher supply and demand is possible by a comparison over several years of the number of prospective teachers being graduated and the total number of teachers being employed.

In such a comparison, allowance must be made for changes in the influence of annual growth of the teaching staff and differences in the proportion of teachers leaving the profession. The proportion of the total number of teachers represented by the number of graduates completing teacher education would not normally be expected to vary widely if the new supply is keeping pace with a steady increase in the demand for beginning teachers.

Table XIV shows the percent of the total number of teachers represented by the number of teacher education graduates ready for entry each year since 1955-56.

TABLE XIV

ESTIMATES OF THE TOTAL NUMBER OF PUBLIC-SCHOOL TEACHERS AND THE NUMBER OF TEACHER EDUCATION GRADUATES READY FOR EMPLOYMENT EACH YEAR SINCE 1955-56

Session	Elementary			Secondary		
	Total teachers	Teacher education graduates of previous year		Total teachers	Teacher education graduates of previous year	
		Number	Percent of total		Number	Percent of total
1	2	3	4	5	6	7
1955-56	733,000	37,712	5.1%	408,000	49,697	12.2%
1956-57	751,000	40,801	5.4	447,000	56,785	12.7
1957-58	786,000	44,029	5.6	473,000	65,062	13.8
1958-59	815,000	45,318	5.3	491,000	69,093	14.1
1959-60	832,000	47,836	5.7	524,000	71,585	13.7
1960-61	858,000	52,630	6.1	550,000	77,573	14.1
1961-62	869,000	51,866	6.0	592,000	77,322	13.1
1962-63	886,000	57,854	6.5	621,000	84,489	13.6
1963-64	908,000	61,979	6.8	669,000	96,378	14.4
1964-65	940,000	72,581	7.7	708,000	101,552	14.3
1965-66	965,000	77,773	8.1	746,000	112,436	15.1
1966-67	1,006,000	77,703[a]	7.7	783,000	122,208[a]	15.6
1967-68	1,040,000[b]	76,607[c]	7.4	815,000[b]	121,554[a][c]	14.9
1968-69	1,058,000[d]	91,336[a]	8.6	852,000[d]	143,611[a]	16.9
1969-70	1,061,000[d]	105,551[a]	9.9	881,000[d]	174,344	19.8

Source of staff size: U.S. Department of Health, Education, and Welfare, Office of Education. Projections of Educational Statistics to 1977-78. Washington, D.C.: Government Printing Office, 1969. Table 23. (Fall staff size includes number of part-time teachers.)

a/ Persons prepared to teach specific subjects, librarians, and guidance counselors are classified as secondary, consistent with practice in earlier years. Persons prepared to enter employment as school psychologists, school social workers, school nurses, and other ungraded assignments are not included.

b/ Preliminary estimate.

c/ Estimate may be from 2 to 6 percent lower than actual numbers owing to incomplete reports in two states.

d/ Projection.

Source: NEA Research Report, 1969-R14, p. 45

From the table it can be seen that during the years of marked growth in the total staff size, the number of prospective teachers has represented a gradually increasing proportion of the total staff size.

The estimated supply and demand of beginning teachers by assignment areas for 1969 is shown in Table XV.

TABLE XV

COMPARISON OF THE ESTIMATED SUPPLY OF BEGINNING TEACHERS WITH THE ADJUSTED TREND CRITERION ESTIMATE OF DEMAND FOR BEGINNING TEACHERS AND FOR NEW TEACHERS IN 1969, BY ASSIGNMENT

Assignment	Estimated supply of beginning teachers	Estimated demand for beginning teachers		Difference between supply and demand for beginning teachers		Number of former teachers expected to re-enter classrooms	
		Distribution last year	Estimated national distribution	Distribution last year	Estimated national distribution	Distribution last year	Estimated national distribution
1	2	3	4	5	6	7	8
Elementary (total) .	(89,147)	(72,900)	(59,786)	(+16,247)	(+29,361)	(34,500)	(34,371)
Regular instruction	83,279	65,977	56,855	+17,302	+26,424	31,224	32,822
Selected subjects:							
Art	617	598	106	+19	+511	284	39
Foreign language	219	88	346	+131	-127	42	277
Music	826	1,392	617	-566	+209	658	370
Physical and health education	896	1,271	929	-375	-33	601	288
Special education	3,310a/	3,574	933	-264	+2,377	1,691	575
Secondary (total) ..	(105,694)	(82,400)	(78,213)	(+23,294)	(+26,035)	(25,900)	(24,132)
Agriculture	882	920	488	-38	+394	289	272
Art	4,654	2,502	2,186	+2,152	+2,468	786	606
Business education	6,298	4,331	4,267	+1,967	+2,031	1,361	1,445
Distributive education	284	373	...	-89	...	118	...
English language arts	21,232	16,926	17,926	+4,306	+3,306	5,320	6,265
Foreign language .	6,552	4,031	4,471	+2,521	+2,081	1,267	1,196
Home economics ...	4,852	3,782	2,990	+1,070	+1,862	1,189	1,401
Industrial arts ..	3,690	2,463	2,994	+1,227	+696	774	849
Junior high school	682	1,434	...	-752	...	450	...
Mathematics	8,652	9,267	10,327	-615	-1,675	2,912	3,208
Music	5,044	3,174	2,171	+1,870	+2,873	998	720
Physical and health education--men	7,110	3,237	2,704	+3,873	+4,406	1,018	527
Physical and health education--women	5,652	3,532	3,820	+1,730	+1,442	1,111	1,090
Natural and physical sciences ..	8,267	8,527	9,334	-260	-1,067	2,680	2,852
Social studies ...	19,299	10,944	12,133	+8,355	+7,166	3,439	2,773
Trade, industrial, vocational, technical	279	1,447	1,322	-1,168	-1,043	455	337
Special education.	2,004a/	2,165	432	161	+1,572	681	248
Other subjects ...	651	3,345	648	-2,694	+3	1,052	343

a/ Information is not sufficiently complete to allow an accurate estimate of the supply-demand condition.

Source: NEA Research Report, 1969-R14, p. 47

The estimates of demand are based on the Adjusted Trend Criterion which was described earlier. The differences listed in columns 5 and 6 show the adequacy of the supply of teachers in each assignment. Columns 7 and 8 show the number of teachers expected to reenter classrooms after at least a year's absence. These figures are the estimated additional numbers of beginning teachers which would be needed if no former teachers reentered classrooms.

From data received from 23 states and the District of Columbia, the NEA prepared Table XVI which is a summary of the ranked placement of the subject areas of teacher preparation in terms of the estimated condition of the supply and demand for beginning teachers.

TABLE XVI

SUMMARY OF ESTIMATED SUPPLY COMPARED WITH THE ADJUSTED TREND CRITERION ESTIMATE OF DEMAND FOR BEGINNING TEACHERS IN 1969, ELEMENTARY-SCHOOL AND SECONDARY-SCHOOL SUBJECT AREAS, BY RANK

Assignment	Numerical difference in the estimated supply of beginning teachers and estimated demand based on		Percent of teacher education graduates entering the profession	Estimated additional supply if 70.0 percent of graduates entered	Additional demand if estimated re-entry rate is reduced by 10%	General condition
	Percent distribution in 1968	National estimate				
1	2	3	4	5	6	7
Mathematics	-615	-1,675	71.2%	...	-321	Shortage
Natural and physical sciences	-260	-1,067	66.3	461	-285	Shortage
Trade, industrial, vocational, technical	-1,168	-1,043	41.3	194	-34	Shortage
Special education						
Elementary	-264	2,337	69.0	77	-57	Low supply
Secondary	-161	1,572	69.0		-25	Low supply
Distributive education	-89	...	65.5	21	-118	Low supply
Industrial arts	1,227	696	70.9	...	-85	Near balance
Physical and health education--secondary (women)	1,730	1,442	74.2	...	-109	Near balance
Junior high-school subjects	-572	...	83.6	...	-450	Possible shortage[a/]
Elementary, regular instruction	17,302	26,424	78.5	...	-3,282	Near balance
Agriculture	-38	394	64.0	206	-27	Near balance
English language arts	4,306	3,306	65.8	1,345	-627	Adequate supply
Home economics	1,070	1,862	63.9	464	-140	Adequate supply
Art						
Elementary	19	511	54.1	182	-4	Near balance[a/]
Secondary	2,152	2,468	66.5	245	-61	Adequate supply
Foreign languages						
Elementary	131	-127	72.8	...	-28	Near balance[a/]
Secondary	2,521	2,081	62.3	811	-120	Adequate supply
Business education ..	1,967	2,031	61.4	883	-145	Adequate supply
Music						
Elementary	-566	209	74.5	...	-37	Possible shortage[a/]
Secondary	1,870	2,873	67.4	195	-72	Adequate supply
Physical and health education						
Elementary	-375	-33	69.4	8	-29	Possible shortage[a/]
Secondary (men)..	3,873	4,406	66.0	427	-53	Adequate supply
Social studies	8,355	7,166	58.0	3,994	-277	Adequate supply

a/ Information is not sufficiently complete to allow an accurate estimate of the supply-demand condition.

Source: NEA Research Report, 1969-R14, p. 48

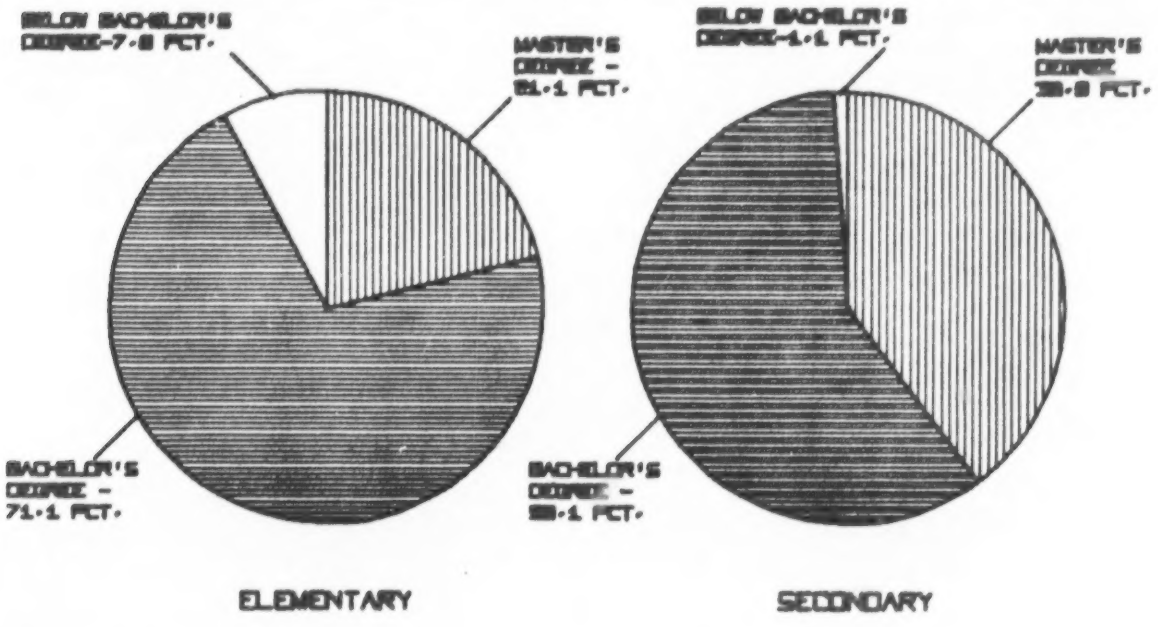
Column 7 of Table XVI is a summary of the general condition existing in each area. The most severe shortage of supply of beginning teachers is in mathematics and the natural and physical sciences. Limited supply compared with demand is estimated in trade-technical-industrial-vocational subjects, women teachers of physical education, distributive education, industrial arts and special education.

In the areas of school librarian and guidance counselors, it is estimated that the supply will be adequate to fill the positions available, although the supply of beginning staff for these positions will be far below the numbers needed to attain minimum quality. The estimated supply in 1969 was 1,379 librarians and 2,620 guidance counselors.

The minimum educational requirement to become a teacher which has become widely accepted is a bachelor's degree with an emphasis upon preparation for teaching. Over the past 10 years there has been a substantial increase in the proportion of teachers holding at least a bachelor's degree as well as master's degrees. The percentages of teachers at different levels of training is shown in the figure below.

FIGURE 2

ESTIMATED NATIONAL DISTRIBUTION OF PUBLIC-SCHOOL TEACHERS BY THEIR HIGHEST LEVEL OF ACADEMIC PREPARATION, 1968-69



Source: NEA Research Report, 1969-R14, p.52.

The wide differences among the 28 states which participated in a survey of the educational training level of their teachers are shown in Table XVII. The percent of elementary teachers holding master's degrees varies from 39.1% in Kansas to 2.9% in North Dakota and those with less than two years of college varies from 13.7% in New Hampshire to none in 13 states.

Other extreme variations come at the master's level where Kansas reports 60.8% and Hawaii 16.3% of all secondary teachers holding a master's degree or higher.

TABLE XVII

PERCENT OF ALL ELEMENTARY- AND ALL SECONDARY-SCHOOL TEACHERS IN 28 STATES HAVING MASTER'S DEGREE, BACHELOR'S OR HIGHER DEGREE, AND LESS THAN TWO YEARS' COLLEGE, 1968-69

State	All elementary-school teachers					All secondary-school teachers				
	Master's or higher degree		Bachelor's or higher degree		Less than 2 years' college	Master's or higher degree		Bachelor's or higher degree		Less than 2 years' college
	Percent	Rank	Percent	Rank		Percent	Rank	Percent	Rank	
1	2	3	4	5	6	7	8	9	10	11
Alabama	14.9%	13	91.9%	19	1.4%	27.0%	17	97.1%	24	0.5%
Arkansas	15.2	12	96.8	11	...	25.3	21	98.9	13	...
Colorado	17.5	10	98.6	5	0.1	34.8	7	99.1	10	0.1
Connecticut	27.8	4	96.9	10	0.2	47.1	2	99.2	8.5	0.4
Delaware	15.6	11	95.3	15	...	31.5	10	96.2	26	...
Florida	22.1	7	99.2	3	0.1	30.0	13	99.8	3	*
Georgia	11.2	19	98.0	6	...	31.9	9	98.4	18	...
Hawaii	7.9	25	91.7	20	...	16.3	27	92.9	28	...
Kansas	39.1	1	95.7	14	...	60.8	1	98.9	13	...
Louisiana	17.7	9	92.6	17	1.1	30.5	11	98.5	17	0.2
Maryland	12.2	18	86.8	22	2.7	24.3	22	96.7	25	0.9
Mississippi[a]	10.1	21	96.7	12	0.1	15.4	28	98.1	20.5	*
Missouri[b]	20.4	8	96.4	13	0.2	41.4	3	98.1	20.5	1.6
Nebraska[a]	4.9	27	68.9	27	0.5	17.6	25	99.0	11	*
Nevada	13.1	17	92.2	18	...	25.6	20	99.5	4	...
New Hampshire	8.3	23	79.8	26	13.7	26.7	17	93.4	27	3.1
New Mexico	25.9	5	99.5	2	...	40.3	4	99.9	2	...
North Dakota	2.9	28	49.6	28	0.3	16.7	26	99.2	8.5	*
Oklahoma	33.9	2	100.0	1	...	38.0	5	99.3	6.5	...
Oregon[a]	14.0	14	93.5	16	...	37.1	6	98.9	13	...
Tennessee	13.8	15	84.0	25	0.6	28.5	14	98.3	19	0.2
Texas	27.9	3	97.7	7	[c]	30.4	12	98.6	16	[c]
Utah	6.7	26	97.5	8	...	19.3	24	99.4	5	...
Virginia	8.0	24	87.6	21	3.6	19.9	23	98.0	22	1.9
Washington	24.9	6	97.2	9	[c]	34.0	8	99.3	6.5	[c]
West Virginia	13.3	16	84.9	24	0.4	27.7	15.5	97.3	23	0.9
Wisconsin	10.3	20	86.5	23	0.2	27.7	15.5	98.7	15	0.1
Wyoming	8.4	22	99.1	4	...	26.4	19	100.0	1	...

* Less than 1/10 of 1 percent.
[a] Teachers whose preparation level is not known are not included.
[b] Data are for 1967-68.
[c] Data not available in this classification.

Source: NEA Research Report, 1969-R14, p.54.

The minimal requirement in several states is still less than two years of college. Three states report having over 3% of all their beginning elementary teachers at this training level. Five states indicate that over 2% of their new secondary school teachers had less than 2 years of college. Wyoming and Nevada are the only two states of those participating which report 100% of their new elementary and secondary teachers have a minimum of a bachelor's degree.

The National Scene: Fall 1970

Considerable reference is made in this study to the report, Teacher Supply and Demand in Public Schools, 1969, prepared by the Research Division of the National Education Association. As of January, 1971, the 1970 report of the NEA on teacher supply and demand had not been released. NEA officials did, however, provide the CCHE staff with a preliminary report on the 1970 study. Highlights are as follows:

- NEA explains that, in the fall of 1970, the supply of public school teachers surpassed the record level reported in 1969 and that the demand for teachers to handle increased enrollments was "at the lowest point in recent history." The report is qualified to the extent that teacher shortages are continuing for qualified persons to fill positions in some assignments and in some localities. NEA suggests further that, if schools were to increase their progress toward minimum standards of quality in staff, the reports of shortages would be far more widespread.

- NEA illustrates the alleviation of the general teacher shortage by pointing out that the number of positions added for the fall of 1970 was between one-half and three-fourths of the numbers of new positions created during each of the past 16 years--while the size of the graduating class prepared to enter teaching doubled between 1954 and 1964 and has been more than three times the 1954 levels since 1969. Nationally, the number of qualified beginning teachers increased 6.3% at the elementary level between 1969 and 1970, 12.8% at the secondary level, and 5.5% in special education.

- The number of states reporting a "substantial shortage of applicants" for teaching posts, as high as 20 in 1966, went down to 2 in 1969. In 1970, none of the states reported a substantial shortage. While 12 states reported "some shortage of applicants" in 1969, there were only 2 states included in this category in 1970.

- States reporting a market condition of "shortage of applicants in some subject areas and excess in others" jumped from 8 in 1966 to 32 in 1969 and to 35 in 1970--further evidence of the uneven distribution of teachers by subject area. While none of the states reported a "substantial excess of applicants" during the period of 1966 through 1969, 4 states fell into this category in 1970.

- Wisconsin is included among those states reporting a "shortage of applicants in some subject areas and an excess in others." Of Wisconsin's neighboring states, Illinois reported a situation comparable to Wisconsin; Minnesota, a substantial excess, and Michigan, Iowa and Indiana, sufficient applicants to fill available positions. In the entire nation, only Georgia and South Dakota cited some shortage of applicants in 1970.

Shortages in Selected Subject Areas

"Extreme difficulty" in filling positions for 1970-71 were identified by 49 states in the following assignments: elementary school librarians (26 states); special education (20); industrial arts (19); remedial reading, speech correction (14); special teachers for educationally disadvantaged (9); women's physical education and health education (9); and mathematics (8). A sample of 67 large school systems revealed extreme difficulty in filling positions in industrial arts (24 large school systems); special education (14); mathematics (13); trade, industrial, vocational (6); natural and physical sciences (4); women's physical education (5); remedial reading, speech correction, etc. (6); and elementary, regular instruction (2). The subject areas cited by the states and by the sample of large school systems are generally the same subject areas which are frequently filled by persons with substandard qualifications.

The NEA study shows a dramatic shift in the number of instructional staff positions reported to be unfilled as of August 1 in selected large cities in the United States. Milwaukee, for example, went from 66 unfilled positions as of early August 1967, to 135 in 1968, 119 in 1969, and 20 in 1970. Changes reported by other cities, from 1967 to 1970: Baltimore (346 to 246), Boston (56 to 6), Chicago (1,398 to 58), Cleveland (346 to 0), Detroit (509 to 188), Houston (0 to 32), Los Angeles (378 to 111), New Orleans (143 to 75), New York City (1,105 to 140), Philadelphia (407 to 192), Saint Louis (190 to 60), San Francisco (0 in 1968 to 6 in 1970), Washington, D.C. (365 to 0).

Total instructional staff positions unfilled in early August in the 14 large cities listed dropped from 5,309 in 1967 to 1,134 in 1970.

Of 44 states reporting in 1970, 26 said they experienced a shortage of applicants in rural areas; 6, a shortage in small cities; 4, a shortage in central cities of large urban centers; and none reported a shortage in suburban areas.

CHAPTER II. ELEMENTARY AND SECONDARY EDUCATION IN WISCONSIN

This section of the study will present available data concerning elementary and secondary education in Wisconsin. The data are for fall 1969, unless otherwise indicated. The current numbers of students enrolled, teachers employed, and teachers completing certification programs will be reviewed in light of current and future supply and demand of teachers.

Elementary and Secondary Enrollments

Wisconsin had a resident population of over 4.2 million as of July 1, 1970, making it the 16th most populated state in the U.S. Growth since 1960 was 7.1% compared to 12.6% for the U.S. as a whole. The school-age (5-17) population was estimated to be 1,155,000 or 27.3% of the total resident population of the state. Wisconsin does a commendable job in providing education for its inhabitants with 97.8% of the school-age children in the state enrolled in school. The public school enrollment is 84.9% of the total school-age population, placing it 37th among the states. The percent of increase in public school enrollments between 1959-60 and 1969-70 is 47.3%, which places Wisconsin as having the 10th largest percent increase in the nation.

The total elementary and secondary enrollment for the state, at the time of this report, was placed at 1,192,658. Of this number nearly 18%, or 212,394 students are enrolled in nonpublic schools. Data concerning enrollment, number of schools and public school districts are shown in Table XVIII.

TABLE XVIII

GENERAL PUBLIC AND NONPUBLIC SCHOOL DATA

	Fall 1968			Fall 1969		
	Public	Non-Public	Total	Public	Non-Public	Total
Enrollments	954,243	231,259	1,185,502	980,064	212,594	1,192,658
Secondary	388,379	37,496	425,875	403,986	34,730	438,716
Elementary	565,864	193,763	759,627	576,078	177,864	753,942
Schools	2,432	888	3,320	2,401	840	3,241
Secondary						
High Schools	425	92	517	424	86	510
Jr. High Schools	194	2	196	200	2	202
Elementary	1,813	794	2,607	1,777	752	2,529
Districts	465			459		
K-12 or 1-12	372			369		
9-12	16			15		
K-8 or 1-8	77			75		

Source: *Schools: Trend Indicators*, November 1969, Wisconsin Department of Public Instruction, 126 Langdon Street, Madison, Wisconsin 53702.

The enrollment trends for the past five years may be determined from the data in Table XIX, reproduced from a Department of Public Instruction table.

The table indicates that past Wisconsin enrollment statistics reflect the experience of the U.S. as a whole: a decrease in the elementary enrollment, and a slight increase at the secondary level. Nonpublic enrollments have been steadily decreasing.

TABLE XIX

WISCONSIN PUBLIC AND NONPUBLIC SCHOOL ENROLLMENTS
A COMPARATIVE ANALYSIS

	1965 Enroll.	1966 Enroll.	1966 Change*	1967 Enroll.	1967 % of Change*	1968 Enroll.	1968 % of Change*	1969 Enroll.	1969 % of Change*
PRE SCHOOL		1,137		1,305	(+14.8%)	1,176	(-9.9%)	1,349	(+14.7%)
Public		903		1,102	(+22.0%)	879	(-20.2%)	966	(+9.9%)
Nonpublic		234		203	(-3.2%)	297	(+46.3%)	383	(+29.0%)
KINDERGARTEN	92,931	93,804	(+0.9%)	93,661	(-0.2%)	91,773	(-2.1%)	89,281	(-2.7%)
Public	89,245	90,441	(+1.3%)	90,472	(+0.0%)	88,700	(-2.0%)	86,458	(-2.5%)
Nonpublic	3,686	3,393	(-8.0%)	3,189	(-6.0%)	3,073	(-3.4%)	2,823	(-8.1%)
FIRST	98,754	99,182	(+0.4%)	99,850	(+0.7%)	97,736	(-2.1%)	94,953	(-2.8%)
Public	72,687	74,313	(+2.2%)	76,978	(+3.6%)	77,108	(+0.2%)	76,396	(-0.9%)
Nonpublic	26,067	24,869	(-4.6%)	22,827	(-8.2%)	20,628	(-9.6%)	18,557	(-10.0%)
SECOND	94,076	96,350	(+2.4%)	96,408	(+0.1%)	96,887	(+0.5%)	95,176	(-1.8%)
Public	64,691	68,202	(+5.4%)	69,961	(+2.3%)	73,017	(+4.4%)	73,797	(+1.1%)
Nonpublic	29,385	28,148	(-4.2%)	26,447	(-6.0%)	23,870	(-9.7%)	21,379	(-10.4%)
THIRD	95,486	94,789	(-0.8%)	97,059	(+2.4%)	96,849	(-0.2%)	96,611	(-0.2%)
Public	65,317	66,111	(+1.2%)	69,848	(+5.7%)	71,911	(+3.0%)	74,045	(+3.0%)
Nonpublic	30,169	28,678	(-4.9%)	27,211	(-5.1%)	24,938	(-8.4%)	22,566	(-9.5%)
FOURTH	89,785	92,038	(+2.5%)	92,032	(+0.0%)	95,099	(+3.3%)	95,596	(+0.5%)
Public	60,514	63,919	(+5.6%)	64,791	(+1.4%)	69,913	(+7.9%)	72,354	(+3.5%)
Nonpublic	29,271	29,119	(-0.5%)	27,241	(-6.4%)	25,186	(-7.9%)	23,242	(-7.7%)
FIFTH	88,960	89,201	(+2.7%)	92,850	(+4.1%)	91,532	(-1.4%)	94,601	(+3.4%)
Public	59,622	61,147	(+2.6%)	65,058	(+6.4%)	66,212	(+1.8%)	71,114	(+7.4%)
Nonpublic	29,338	28,054	(-4.4%)	27,792	(-0.4%)	25,320	(-8.9%)	23,487	(-7.2%)
SIXTH	87,139	88,657	(+1.7%)	88,946	(+0.3%)	91,765	(+3.2%)	89,975	(-2.0%)
Public	58,116	60,396	(+3.9%)	62,273	(+3.1%)	65,958	(+5.9%)	66,475	(+0.8%)
Nonpublic	29,032	28,261	(-2.7%)	26,673	(-5.6%)	25,807	(-3.3%)	23,500	(-8.9%)
SEVENTH	84,838	88,671	(+4.5%)	89,176	(+0.6%)	89,630	(+0.5%)	93,827	(+4.7%)
Public	57,598	60,697	(+5.4%)	63,897	(+5.3%)	67,454	(+5.6%)	72,601	(+7.6%)
Nonpublic	27,240	26,974	(-1.0%)	25,279	(-6.3%)	22,176	(-12.3%)	21,226	(-4.3%)
EIGHTH	84,701	84,613	(-0.0%)	86,997	(+2.8%)	88,249	(+1.4%)	88,321	(+0.1%)
Public	57,456	58,712	(+2.2%)	62,153	(+5.9%)	66,034	(+6.2%)	68,180	(+3.2%)
Nonpublic	27,245	25,904	(-4.9%)	24,844	(-4.1%)	22,215	(-10.6%)	20,141	(-9.3%)

	1965 Enroll.	1966 Enroll.	1966 Change*	1967 Enroll.	1967 Change*	1968 Enroll.	1968 Change*	1969 Enroll.	1969 Change*
SPECIAL	8,953	9,891	(+10.5%)	10,136	(+2.5%)	10,708	(+5.6%)	11,046	(+3.2%)
Public	8,648	9,608	(+11.1%)	9,247	(-3.8%)	10,223	(+6.4%)	10,257	(+0.3%)
Nonpublic	305	283	(-7.2%)	889	(+214.1%)	485	(-45.4%)	789	(+62.7%)
NINTH	83,004	85,260	(+2.7%)	85,195	(-0.0%)	88,181	(+3.5%)	90,292	(+2.4%)
Public	71,274	74,207	(+4.1%)	75,032	(+1.1%)	78,380	(+4.4%)	81,525	(+4.1%)
Nonpublic	11,730	11,053	(-5.8%)	10,163	(-8.1%)	9,801	(-5.6%)	8,767	(-10.5%)
TENTH	77,713	82,460	(+6.1%)	84,509	(+2.5%)	85,192	(+0.8%)	88,218	(+3.6%)
Public	67,447	72,121	(+6.9%)	74,799	(+3.7%)	76,004	(+1.6%)	79,551	(+4.7%)
Nonpublic	10,266	10,339	(+0.7%)	9,710	(-6.1%)	9,188	(-5.4%)	8,667	(-5.7%)
ELEVENTH	74,740	75,357	(+0.8%)	79,843	(+6.0%)	81,957	(+2.6%)	82,123	(+0.2%)
Public	65,094	65,852	(+1.2%)	70,444	(+7.0%)	72,855	(+3.4%)	73,728	(+1.2%)
Nonpublic	9,646	9,505	(-1.5%)	9,399	(-1.1%)	9,102	(-3.2%)	8,395	(-7.8%)
TWELFTH	69,442	71,334	(+2.7%)	71,812	(+0.1%)	76,290	(+6.2%)	70,150	(-8.0%)
Public	60,032	62,147	(+3.5%)	62,729	(+0.9%)	67,178	(+7.1%)	74,045	(+10.2%)
Nonpublic	9,410	9,187	(-2.4%)	9,083	(-1.7%)	9,112	(+0.3%)	8,667	(-4.9%)
POST-GRAD.	48	68	(+41.7%)	38	(-41.2%)	16	(-57.9%)	7	(-56.2%)
Public	46	35	(-23.9%)	33	(-5.7%)	13	(-60.4%)	7	(-46.2%)
Nonpublic	2	33	(+1650.0%)	5	(-84.8%)	3	(-40.0%)	0	(-100.0%)
SPECIAL	1,155	1,848	(+60.0%)	2,280	(+23.4%)	2,456	(+7.7%)	2,738	(+11.5%)
Public	1,109	1,656	(+49.3%)	2,215	(+33.8%)	2,404	(+8.5%)	2,733	(+13.7%)
Nonpublic	46	192	(+317.4%)	65	(-66.1%)	52	(-20.0%)	5	(-90.4%)
TOTAL (K-8)	825,614	838,336	(+1.5%)	848,375	(+1.2%)	851,404	(+3.6%)	850,736	(-0.1%)
Public	593,885	614,419	(+3.5%)	635,780	(+3.5%)	657,409	(+3.4%)	672,643	(+2.3%)
Nonpublic	231,729	223,917	(-3.4%)	212,595	(-5.1%)	193,995	(-8.7%)	178,093	(-8.2%)
TOTAL (9-12)	306,309	316,327	(+3.3%)	323,677	(+2.3%)	334,098	(+3.2%)	341,922	(+2.3%)
Public	265,207	276,018	(+4.0%)	285,252	(+3.3%)	296,834	(+4.1%)	307,421	(+3.6%)
Nonpublic	41,102	40,309	(-1.9%)	38,425	(-4.3%)	37,264	(-3.0%)	34,501	(-7.4%)
TOTAL (K-12)	1,131,923	1,154,660	(+2.0%)	1,172,052	(+1.5%)	1,185,502	(+1.1%)	1,192,658	(+0.6%)
Public	859,092	890,434	(+3.6%)	921,032	(+3.4%)	954,243	(+3.6%)	980,064	(+2.6%)
Nonpublic	272,831	264,226	(-3.2%)	251,020	(-5.0%)	231,259	(-7.8%)	212,594	(-8.1%)

*Percent of change from previous year.

Note: In some instances public and nonpublic figures reported do not coincide with the total indicated; however, these are the figures provided in the Department of Public Instruction report.

The distribution of the elementary and secondary school enrollment on a geographical basis by Cooperative Educational Service Agencies (CESA) is shown in the table which follows.

TABLE XX

WISCONSIN ENROLLMENT BY CESA'S

CESA	PUBLIC			NONPUBLIC			Grand Total
	Elementary	Secondary	Total	Elementary	Secondary	Total	
1	10,976	8,659	19,635	1,652	--	1,652	21,287
2	14,351	11,299	25,650	4,022	--	4,022	29,672
3	14,415	8,614	23,029	2,896	413	3,309	26,338
4	15,104	10,973	26,077	870	--	870	26,947
5	14,158	9,707	23,865	2,279	--	2,279	26,144
6	21,926	15,365	37,291	5,719	1,251	6,970	44,261
7	29,924	20,417	50,341	11,213	2,493	13,706	64,047
8	32,331	25,445	57,776	14,893	2,965	17,858	75,634
9	26,408	20,458	46,866	13,314	2,080	15,394	62,260
10	23,494	18,016	41,510	12,661	1,302	13,963	55,473
11	21,221	16,344	37,565	5,842	1,511	7,353	44,918
12	17,984	11,137	29,121	3,285	239	3,524	32,645
13	19,140	15,947	35,087	8,987	1,555	10,542	45,629
14	17,393	12,283	29,676	4,169	537	4,706	34,382
15	43,700	28,615	72,315	6,559	1,106	7,665	79,980
16	49,799	28,359	78,158	13,358	1,489	14,847	93,005
17	25,006	18,793	43,799	4,352	827	5,179	48,978
18	48,475	33,707	82,182	11,798	3,273	15,071	97,253
19	130,273	89,848	220,121	49,995	13,689	63,684	283,805
TOTALS	576,078	403,986	980,064	177,864	34,730	212,594	1,192,658

Projections of public school enrollment at the different grade levels which were made by the Department of Public Instruction and revised in January of 1970 are shown in Table XXI. Also shown are the actual enrollments from 1963 through 1969. The figures reported are the exact figures provided by the Department of Public Instruction.

TABLE XXI

WISCONSIN PUBLIC SCHOOL ENROLLMENTS AND PROJECTIONS BY GRADES 1963 TO 1976* (Revised 1-70)

	ACTUAL							PROJECTED						
	1963**	1964**	1965†	1966†	1967†	1968†	1969†	1970	1971	1972	1973	1974	1975	1976
Births	91605	88910	82919	80418	75840	74257	73240							
Preschool				903	1102	179	966	1000	1500	1700	2000	2000	2400	2600
Kg.	81499	86175	89245	90441	90472	88700	86458	80500	77600	73200	71600	71000	71200	72000
1	69600	70353	72687	74313	76978	77100	76396	74000	69100	68000	65400	64500	64500	65000
2	61774	64586	64691	68202	69916	73017	73797	72500	70000	66300	65500	67000	64000	64000
3	60931	62168	65317	66111	69848	71911	74045	76000	75000	72400	65000	67000	64000	65000
4	57999	59554	60514	63919	64791	69913	72354	73000	76500	75300	74000	69000	69000	65000
5	55666	57958	59622	61174	65508	66212	71114	74500	77000	81000	78000	79000	73000	71000
6	55928	55926	58116	60396	62273	65908	66475	72500	78000	81400	84000	84000	80000	74000
7	54929	56768	57596	60697	63897	67454	72601	75000	79500	86700	89000	90000	89000	86000
8	51634	55161	57456	58712	62153	66034	68180	75000	78000	83300	88000	92500	90000	90000
El. Spec.	7179	8127	8648	9608	9247	10223	10257	9000	9000	9000	10000	12000	12000	12000
9	66098	66517	71274	74207	75032	78380	81525	88000	90000	91100	94000	95000	96000	95000
10	64073	65646	67447	72721	74799	76004	79551	84500	88500	88900	91700	94000	96000	95000
11	62735	61374	65094	65852	70444	72855	73728	77500	82000	86100	86200	88800	91100	93000
12	49241	59342	60032	62147	62792	67178	74045	71000	75000	79400	82900	82800	84700	87200
H.S. Spec. Post-Grad.	1457	1129	1155	1691	2248	2417	2740	3100	3700	4100	4500	4900	5200	5500
TOTAL	800743	830765	859092	890436	921032	954243	980064	1006600	1030400	1048700	1051800	1057500	1052100	1042300
El. TOTAL	557139	576757	593885	614418	635780	657409	672643	683000	691200	698300	692500	692000	679100	666600
H.S. TOTAL	243604	254008	265207	276018	285242	296834	307421	323600	339200	350400	359300	365500	373000	375700

*Assuming: (1) that the pattern of growth including transfers from nonpublic to public schools would continue at the 1963-69 ratio, (2) considering the known live births up to and including 1968, and (3) a leveling of live births per year at about 74,000 between 1969 and thereafter to 1975.

**End-of-year data. †Fall enrollments.

NOTE: Since development of these projections DPI officials have reported significant changes in population characteristics which modify substantially the enrollment trends. Generally speaking, actual enrollment will probably be less than the figures cited in the projections.

There are no predictions available for nonpublic schools. It may be safe to assume, however, that there will be continued decreases or a leveling off of total nonpublic enrollment in Wisconsin, which began in 1966-67 as a result of rising costs.

The enrollment projections show an increase in the total number of elementary and secondary enrollments until 1974 and then a slight decrease. This is in line with the national projections of an increase in secondary school enrollments and a decrease at the elementary level with the total number staying nearly the same or decreasing slightly.

Enrollments in special education classes for 1969-70 were estimated to be 50,980. Of these, 28,063 were receiving speech therapy, 17,556 were in classes for the mentally retarded, 1,825 were homebound, 985 deaf/hard of hearing, 710 in emotionally disturbed classes, 475 that were hospitalized, 339 physically handicapped, 348 multiple handicapped, 368 visually handicapped and 311 in classes for special learning disabilities. There were 2,100 special education teachers last year. With the special education enrollments predicted to reach 64,454 by 1971-72, indications are that the shortage of special education teachers is likely to continue for the next several years. This will be true at the national level as well.

Wisconsin Teachers

According to Wisconsin Department of Public Instruction figures there were 59,227 professional staff members employed in elementary and secondary education in 1969-70. Of these, 57,020 were teachers. Table XXII shows totals for the past two school years.

The total of 9,407 nonpublic teachers shown for 1969 is about 16% of the total teaching staff in Wisconsin. The decrease of 283 nonpublic teachers from 1968 to 1969 correlates with the decrease in nonpublic enrollments and number of schools reported earlier.

TABLE XXII

WISCONSIN PUBLIC AND NONPUBLIC SCHOOL STAFF FOR FALL 1968 AND FALL 1969

Staff	Fall 1968			Fall 1969		
	Public	Nonpublic	Total	Public	Nonpublic	Total
Secondary	21,525	2,379	23,904	22,494	2,232	24,726
Elementary	24,041	7,311	31,352	25,119	7,175	32,294
Administrative	1,980	--	1,980	2,207	--	2,207
TOTAL	47,546	9,690	57,236	49,820	9,407	59,227

Source: Bureau for Information Sources, DPI, Madison, Wisconsin.

The number of public school teachers increased at both the elementary and secondary levels between 1968 and 1969. The figure of 57,020 includes guidance and library personnel. The number of actual classroom teachers is reported to be 46,218 in the DPI publication, "Analysis of Professional Staff and Teacher Personnel in Wisconsin, 1969-1970."

The NEA Research Division report on "Rankings of the States, 1970" reports a 21.7 to 1 ratio of pupils per teacher in Wisconsin public elementary and secondary schools, fall 1968, compared to a national ratio of 23.1 to 1.

A summary of salary, experience, certification and education for all public school elementary and secondary teachers is shown in Table XXIII.

TABLE XXIII

GENERAL DATA - WISCONSIN PUBLIC ELEMENTARY AND SECONDARY TEACHERS

Total Teachers	Male	Female
46,218	17,027	29,191

	Number Reported	Average
Salary	44,663	$8,983
Local Experience	46,218	7.0 years
Total Experience	46,218	11.0 years

Certification

	Number Reported	Percent
1 Year License	1,256	2.81
2 Year License	1,100	2.46
3 Year License	14,807	33.16
2 Year Term Certificate	368	.82
3 Year Term Certificate	892	2.00
4 Year Term Certificate	147	.33
5 Year Term Certificate	1,297	2.91
Unlimited Life Cert.	23,978	53.70
1 Year Permit	491	1.10
1 Year Special License	317	.71
	44,653	100.00

Highest Degree Received

	Number Reported	Percent
Less than 2 Years	48	.10
2 Year (Diploma)	1,622	3.54
3 Year	1,425	3.11
Bachelors	34,064	74.29
Masters	8,020	17.49
6 Years (Specialist)	420	.91
Doctors	193	.42
Other (Specify)	74	.16
	45,866	100.00

Institution Highest Degree Received From

	Number Reported	Percent
Univ of Wis Madison	3,956	8.56
Univ of Wis Milwaukee	2,193	4.74
Marquette Univ	1,035	2.24
St Univ Eau Claire	2,189	4.74
St Univ La Crosse	2,388	5.16
St Univ Oshkosh	3,901	8.44
St Univ Platteville	2,273	4.92
St Univ River Falls	1,403	3.04
St Univ Stevens Pt	2,854	6.18
St Univ Stout	1,449	3.14
St Univ Superior	1,506	3.26
St Univ Whitewater	3,160	6.84
Wisconsin - Other	7,195	15.56
Out of State	10,716	23.18
	46,218	100.00

Source: *Analysis of Professional Staff and Teacher Personnel in Wisconsin, 1968-1977*, Information Services, Wisconsin Department of Public Instruction, p. 19.

The table shows that 93.25% of Wisconsin's public school teachers have at least a bachelor's degree and nearly 19% have a master's degree or beyond. Over half (53.7%) of the state's teachers have an unlimited life certificate, and another 33.16% hold a 3-year license which is the certification prior to being issued the unlimited certificate.

This would indicate that over 86% of the state's public school classroom teachers are fully qualified for the positions they hold. Approximately 8% of 13.14% not fully qualified are elementary school teachers who have graduated from a less than four-year teacher education program and have not completed the requirements for a bachelor's degree.

As might be expected, the University of Wisconsin-Madison ranks the highest of the institutions from which teachers received their highest degree with 8.56%. The private colleges and universities awarded 17.80%, out-of-state institutions 23.18%, and the remainder from the state universities and University of Wisconsin-Milwaukee. The data do not provide a breakdown of how many were graduate and undergraduate degrees. The Wisconsin State Universities System graduates the greatest number of qualified beginning teachers annually; WSU-Oshkosh heads the list of all Wisconsin campuses in production of new teachers.

The number of teachers in each assignment area as listed by the Department of Public Instruction are shown in the table following. The percentage of teachers at the different training levels are also shown.

TABLE XXIV

NUMBERS AND PERCENT AT DIFFERENT TRAINING LEVELS
OF WISCONSIN TEACHERS BY ASSIGNMENT AREAS

Assignment	Number*	Level of Education by Degree			
		Less Than Bachelors	Bachelors	Masters	More Than Masters
Agriculture	314	.64%	73.40%	25.32%	.64%
Art	1,282	1.65	80.05	17.44	.86
High School	546	1.66	74.44	23.33	.57
Jr. High	322	.62	84.47	14.29	.62
Elementary	637	2.22	85.91	11.39	.48
Audio-Visual					
Director, System	81	1.23	51.85	38.27	8.65
Coordinator, Building	147	1.37	47.95	48.63	2.05
Business Education	1,257	1.37	76.45	20.66	1.52
Bookkeeping	663	1.83	74.27	22.67	1.23
Shorthand	638	1.59	77.02	20.28	1.11
Typing	955	.96	79.58	18.30	1.16
Office Practice	506	1.20	77.29	20.11	1.40
Distributive Education	50	.00	74.00	22.00	4.00
Vocational Education	158	.00	63.70	34.39	1.91
Business and Office	72	.00	63.38	35.21	1.41
Distributive Education	34	.00	70.59	23.53	5.88
Trade and Industry	58	.00	61.40	38.60	.00
Driver Education	605	.67	70.69	26.65	1.99
English	4,239	1.04	79.98	17.22	1.76
High School	2,670	.30	79.74	18.41	1.55
Jr. High School	1,379	1.30	80.84	15.75	2.11
Elementary	379	5.32	79.26	14.89	.53
Journalism	101	1.00	68.00	28.00	3.00
Remedial Reading	921	10.69	62.81	22.36	4.14
Speech Academic	363	1.11	83.10	14.68	1.11
Languages	1,315	.77	74.88	21.44	2.91
Latin	206	.49	66.34	30.24	2.93
French	398	.76	80.76	16.21	2.27
Spanish	478	.63	75.16	21.26	2.95
German	309	.99	70.16	23.93	4.92
Russian	10	.00	80.00	10.00	10.00
Health	351	1.73	75.50	19.88	2.89
Home Economics	1,050	.38	87.68	10.89	.86
Industrial Arts	1,529	1.06	67.01	29.40	1.53

Assignment	Number*	Level of Education by Degree			
		Less Than Bachelors	Bachelors	Masters	More Than Masters
Technical Courses (Trade)	69	2.90%	57.97%	28.99%	.00%
Kindergarten	1,891	6.76	85.64	6.27	1.33
Librarians	1,074	2.42	73.79	22.39	1.31
High School	505	1.58	72.28	24.55	1.39
Jr. High School	193	1.55	69.43	25.91	3.11
Elementary	478	3.78	76.68	19.12	.42
Mathematics	2,759	1.75	69.77	26.32	2.01
Music	1,970	1.33	72.83	24.81	.93
Instrumental Music	1,014	.80	65.04	32.67	1.49
High School	534	.94	61.77	35.97	1.32
Jr. High School	309	.65	61.49	36.89	.97
Elementary	570	1.06	69.56	28.50	.88
Vocal Music	1,257	1.69	78.86	18.41	.88
High School	465	1.97	72.49	24.45	1.09
Jr. High School	260	1.17	71.98	26.46	.39
Elementary	840	1.80	83.64	14.08	.24
Physical Education	2,552	1.14	77.96	20.03	.87
High School	1,418	.78	75.27	23.10	.85
Jr. High School	629	.80	80.67	17.25	1.28
Elementary	1,006	1.90	84.04	13.66	.40
Recreation	60	1.72	53.45	31.03	13.80
Coach	1,917	1.88	69.54	27.80	.73
Sciences	2,828	1.17	63.27	32.75	2.70
Biology	1,104	1.37	62.19	33.52	2.83
Chemistry	689	1.32	57.54	36.60	4.39
Conservation	202	3.49	62.68	31.84	1.99
General Science	1,285	1.56	70.03	25.98	2.27
Physics	421	.00	55.98	41.15	2.87
Physiology	20	.00	52.63	47.37	.00
Earth Science	198	1.02	68.88	26.02	4.08
Other	281	1.07	57.14	38.21	3.22
Social Studies	3,636	.78	73.35	23.44	2.43
Civics	844	1.08	75.84	20.57	2.27
Economics	549	1.11	71.63	24.68	2.40
Geography	950	.96	78.18	18.96	1.90
History	2,294	.65	73.25	23.38	2.63
Social Problems	392	.26	75.00	23.72	1.02
Grades 1-8 Teachers	193	26.70	69.64	2.62	.52
Elementary Teachers	25,939	11.11	77.57	10.42	.74
Jr. High Teachers	7,106	1.81	74.32	21.74	2.05

Assignment	Number*	Level of Education by Degree			
		Less Than Bachelors	Bachelors	Masters	More Than Masters
High School Teachers	15,995	.95%	68.88%	28.06%	1.92%
School Counselors	1,221	.00	22.47	70.45	7.08
School Social Worker					
Junior	58	.00	33.33	56.86	9.81
Senior	102	.00	2.94	83.33	12.75
School Psychologist					
Provisional	23	.00	8.70	69.56	21.74
Psych. I	18	.00	5.56	72.22	22.22
Psych. II	26	.00	.00	61.54	38.46
School Psychometrist	31	.00	12.90	74.20	12.90
					Other
School Nurse	98	56.92	33.85	1.54	7.69
Dist. Administrative Staff	942	.64	11.90	73.85	12.96
Elementary, Jr. High, and High School Principals	1,976	1.16	16.45	72.47	9.66

*Numbers reported for high school, junior high school, and elementary do not necessarily equal the total number reported for a subject area, since some teachers are assigned to more than one level of instruction and are therefore included in more than one category.

Source: *Analysis of Classroom Teachers in Wisconsin, 1969-1970*, Bureau of Information Services, Wisconsin Department of Public Instruction, 126 Langdon Street, Madison, Wisconsin 53702.

The data presented in Table XXIV was gathered from the reports of the school district administrators to the Department of Public Instruction. The number of nondegree teachers varies for each assignment area. A higher percent of elementary teachers (11.11%) than secondary (.95%) have less than a four-year degree. The long-time acceptance of elementary teachers with two years of collegiate preparation and the existence of the County Teachers Colleges might explain the difference to a great extent. The majority of the secondary teachers without a degree received certification prior to the time (1940) that a four-year program was required for certification. Also included for comparative reasons are the supportive service people and administrators.

The type of certification held by the teachers in each assignment area was also given in the report. Because of apparent inconsistencies in reporting by the local districts of the teachers within the ten different types of certification, the data could not be used to make comparisons between the different assignment areas. It is also not possible, from these data, to show those areas in which teacher shortage is related to the number of persons holding positions for which they are not fully qualified.

An analysis of the teachers by geographical area is shown in Table XXV. As with enrollments, the data is given by Cooperative Education Service Agencies (CESA).

The number of teachers in the CESA varied from 1,005 in CESA 1 to 9,472 in CESA 19. The percent of teachers with less than a master's degree is higher in the CESA's which are most densely populated, and are a greater distance from a teacher education institution. Six CESA's have over 10% of the total teachers in the agency without a bachelor's degree. In nearly all cases, these same CESA's have a smaller percent of their teachers with a master's degree or higher than do the others. In most cases the average salaries are lower in these same areas. The percent holding life certificates compares favorably to the other CESA's which would indicate that there are many teachers who received their life certificate before a four-year degree was included as a requirement.

TABLE XXV

ANALYSIS OF WISCONSIN CLASSROOM TEACHERS BY CESA

CESA	Number Reported	Percent Less Than Bachelors Degree	Percent With Bachelors Degree	Percent With Masters or Higher	Ratio of Male/Female Teacher	Average Salary	Average Years of Total Experience	Average Years of Total Experience	Percent Holding Life Certificate
1	1,005	5.63	71.56	22.81	42/58	$8,658	8.5	11.9	55.11
2	1,224	15.48	70.03	14.49	42/58	8,473	7.8	13.0	52.27
3	1,066	14.35	72.91	12.74	43/57	8,476	7.9	12.6	56.25
4	1,334	14.37	73.92	11.71	41/59	8,592	8.1	13.1	55.47
5	1,162	6.95	81.08	11.97	39/61	8,400	6.5	11.1	47.99
6	1,753	10.42	75.23	14.35	37/63	8,597	7.5	12.7	58.31
7	2,385	7.41	78.72	13.87	39/61	8,488	6.8	11.1	49.93
8	2,663	5.01	77.02	17.97	38/62	8,915	7.0	10.8	57.64
9	2,131	9.39	71.34	19.27	42/58	9.110	6.6	11.0	57.64
10	1,999	8.29	71.56	20.15	44/56	8,865	6.8	10.5	52.12
11	1,830	8.47	77.20	14.33	35/65	8,430	7.5	12.9	58.41
12	1,459	13.65	76.59	9.76	38/62	8,275	6.8	12.2	57.21
13	1,684	8.59	77.29	14.12	39/61	8,952	6.9	11.4	56.18
14	1,519	10.99	77.02	11.99	35/65	8,018	6.5	11.8	52.44
15	3,650	3.62	73.42	22.96	32/68	8,953	5.6	9.7	49.18
16	3,921	6.48	76.66	16.86	35/65	9.092	5.6	9.4	52.62
17	2,061	5.23	78.50	16.27	34/66	8,842	6.2	10.2	46.58
18	3,900	8.09	78.82	13.09	36/64	8,896	6.1	9.6	47.68
19	9,472	2.04	68.30	29.66	34/66	9,861	8.3	11.2	56.81

Source: *Geographical Analysis of Classroom Teachers in Wisconsin, 1969-70*, Bureau of Information Services, Wisconsin Department of Public Instruction, Madison, Wisconsin.

It is interesting to note from Table XXVI the college or university from which the largest percentage of the teachers in each CESA received their highest educational degree. In general, a rather high proportion of the teachers in the CESA districts received their highest degree from a near-by public university.

For the entire state, the University of Wisconsin-Madison ranks the highest as the single institution from which Wisconsin teachers received their highest degree (8.56%), although WSU-Oshkosh graduates the greatest number of baccalaureate-level teachers annually.

The University of Wisconsin campuses had the highest percent of graduate degrees only for the CESA in which they are located. The majority of degrees obtained by teachers in Wisconsin are granted by the state universities (45.72%). Slightly over 23 percent of Wisconsin's classroom teachers received their highest degree from out of state, 17.80% from private institutions in the state, and the remainder (13.30%) from the University of Wisconsin campuses.

Table XXVI shows that a high percent (14 to 51%) attended the college or university within or nearest to the CESA in which they were employed.

TABLE XXVI

SOURCE OF HIGHEST DEGREE BY CESA

CESA	Number of Teachers	Closest Public Degree-Granting Institutions and Percent of Highest Degrees Granted	Percent Granted By	
			Wisconsin Private	Out-of-State
1	1,005	WSU-Superior (51.94%)	16.31	20.49
2	1,224	WSU-Stevens Point (26.63%)	18.64	16.92
3	1,066	WSU-Oshkosh (26.55%) WSU-Stevens Point (12.20%)	16.23	25.32
4	1,334	WSU-River Falls (22.41%) WSU-Superior (18.82%) WSU-Eau Claire (16.42%)	12.67	17.55
5	1,162	WSU-River Falls (39.41%) WSU-Eau Claire (18.76%)	4.56	21.25
6	1,753	WSU-Eau Claire (42.38%)	6.56	16.43
7	2,385	WSU-Stevens Point (36.35%)	10.44	18.36
8	2,663	WSU-Oshkosh (36.01%) WSU-Stevens Point (9.39%)	11.79	19.71
9	2,131	WSU-Oshkosh (24.35%)	22.49	23.80
10	1,999	WSU-Oshkosh (18.31%) UW-Milwaukee (2.70%)	24.72	22.27
11	1,830	WSU-La Crosse (41.42%)	7.00	26.07
12	1,459	WSU-Stevens Point (15.28%) UW-Madison (9.66%) WSU-La Crosse (8.09%)	18.16	16.59
13	1,684	WSU-Oshkosh (28.68%) WSU-Whitewater (7.3%) UW-Madison (7.54%)	19.16	16.56
14	1,519	WSU-Platteville (50.30%) WSU-La Crosse (6.52%)	7.83	18.44
15	3,650	UW-Madison (27.39%) WSU-Platteville (12.03%)	9.24	27.24
16	3,921	WSU-Whitewater (14.26%) UW-Milwaukee (3.83%)	28.11	17.13
17	2,061	WSU-Whitewater (26.64%) UW-Madison (11.84%)	10.67	27.12
18	3,900	WSU-Whitewater (18.13%) UW-Milwaukee (1.8%)	21.13	33.36
19	9,472	UW-Milwaukee (17.81%)	26.08	26.87

Source: *Geographical Analysis of Classroom Teachers in Wisconsin 1969-70*, Bureau of Information Services, Wisconsin Department of Public Instruction, Madison, Wisconsin.

CHAPTER III. SURVEY OF WISCONSIN TEACHER PLACEMENT OFFICES

A survey of the teacher placement offices of Wisconsin colleges and universities, both public and private, was conducted by the CCHE staff in the summer of 1970. The Wisconsin State Employment Service also participated in the survey. All placement offices surveyed (12 public and 20 private) responded to the questionnaire. Response to the questions was based on the experience of the offices as of mid-summer of 1970.

Results of the survey tend to confirm information provided in the 1969 NEA national report of teacher supply and demand and in the 1970 NEA preliminary report i.e., Wisconsin, like much of the nation, is experiencing general oversupply of teachers--an excess in many subject fields and a shortage in others. The fields in which an excess or shortage of applicants were reported do not differ substantially from those mentioned in national statistics.

Placement officers responded as follows to the question, "On the basis of placement activity in your office and in general terms, which of the statements below would best describe the current market for elementary education teachers?"

Supply far exceeds demand	1
Supply moderately exceeds demand	13
Supply and demand fairly well balanced. .	13
Demand moderately exceeds supply	5
Demand far exceeds supply	0

The same question, only in reference to secondary education teachers, elicited the following responses:

Supply far exceeds demand	5
Supply moderately exceeds demand	19
Supply and demand fairly well balanced. .	7
Demand moderately exceeds supply	3
Demand far exceeds supply	2

At the elementary level, the demand for teachers was reported as moderately exceeding supply by Beloit College, Stout State University, Edgewood College, WSU-Eau Claire and WSU-Stevens Point.

At the secondary level, demand was reported as moderately exceeding supply by Stout, Stevens Point and Lawrence University. All other placement offices reported supply and demand as well balanced or supply moderately or far exceeding demand at both elementary and secondary levels.

Areas of Shortage and Surplus

The placement officers reported a number of subject and service areas in which they were experiencing either a shortage or an oversupply of applicants. The areas most frequently mentioned as having an undersupply of applicants and the number of offices so reporting were as follows: special education (11); mentally retarded (6); speech correction (8); remedial reading (6); industrial arts (6); mathematics (21); music-vocal (19); music-instrumental (11); physical education-girls' elementary (12); physical education-girls' secondary (11); general science (11); physical sciences (6); and chemistry (6).

Areas most frequently mentioned as having an oversupply of applicants and the number of offices so reporting were as follows: English (19); speech (5); foreign languages (5); biology (10); and social studies (18). History was singled out from the social studies, with 14 offices recording an oversupply of applicants. Elementary and secondary art was reported as fields experiencing an oversupply of applicants by six offices as fields in which there were shortages of applicants by seven other offices.

Increase in Job Registrations

Asked to indicate the number of persons registered for teaching positions in 1970 as compared with 1969, the 32 placement offices provided the following information:

Elementary Registrations, 1969	Elementary Registrations, 1970
2,685	2,861

Secondary Registrations, 1969	Secondary Registrations, 1970
3,881	4,471

Sixteen of the 32 placement offices reported that the percent of persons registered in elementary education, but not placed as of mid-summer, was above that of the previous year; 6 reported the percent to be less than that of 1969. Two of the public universities said the percent not placed, compared with 1969, was 100 percent greater. The greatest improvement of placement (25%) was registered by a small private institution.

In secondary education, 21 of the offices reported placements running behind the previous year as of mid-summer, generally to a significantly greater extent than was the case in elementary education. Only five offices said that placement in 1970 was running ahead of 1969.

No Greater Demand for Graduate Degrees

It has been suggested that improved teacher supply conditions could lead to a greater demand for instructional staff with a graduate degree. The placement offices were querried as to the extent they were experiencing any greater demand for applicants with graduate degrees. Only three offices could detect an increase. Fields mentioned were administration, supervision, special education, English, social studies, home economics,

and industrial education. It may well be that, despite an improved supply of teacher applicants, tighter school budgets discourage any greater employment of persons with graduate degrees who would usually command a salary level above that of the applicant holding a bachelor's degree only.

Placement officers were also asked in an open-end question to provide written comments regarding the current and future supply and demand situation. A number of the placement directors called for more guidance and counseling of education students so that prospective teachers might be encouraged to enter fields in which shortages are likely to exist for some time and so that excessive oversupply in other subject fields could be lessened. Several other placement officers indicated that prospective teachers will have to show a greater willingness to take positions in a wider range of geographical areas. The two comments pertain to the uneven distribution of teacher candidates--both in the subject fields in which they qualify and in the geographical areas to which they are attracted.

Perhaps one placement director summed it up best when he observed, "The gap between demand and supply cannot but widen in the next few years. Placement of teachers now becomes a task, not merely a process." Others concluded that the "task" is also an opportunity for the school districts to substantially upgrade the quality of their instructional staff.

CHAPTER IV. TEACHER SUPPLY IN WISCONSIN--1970-1980

As a part of the CCHE study of teacher supply and demand in Wisconsin, a questionnaire was sent to the deans and chairmen of schools and departments of education at Wisconsin public and private institutions of higher education. The main purpose of the survey was to determine estimates of teacher production, by grade level and subject area, for the period 1970-1980. There are 33 campuses (13 public and 20 private) engaged in teacher training in Wisconsin. All 33 campuses responded to the questionnaire.

Campus Estimates of Teacher Production

On the basis of the estimates provided by the deans and department chairmen, Wisconsin colleges and universities might be expected to produce the following number of persons qualified to enter the teaching profession during the years indicated: 1970--8,172; 1975--10,047; and 1980--13,020.

While the figures given the CCHE for 1975 and 1980 are estimates, it is interesting to compare these data with the NEA report of the number of students in Wisconsin completing preparation for standard teaching certificates in recent years. According to NEA, there were 5,695 such persons completing teacher training in 1968 and 7,050 in 1969. Should the estimates of the deans and department chairmen be realized, Wisconsin's production of persons completing preparation for standard teaching certificates would nearly double between 1969 and 1980. On the basis of the record and projection of live births, the number of school-age children in Wisconsin would probably be no greater, and possibly considerably less, in 1980 than it was in 1969. In 1969, the number of school-age children in Wisconsin totaled 1,218,554. Total school enrollment at that time was 1,192,658, of which 980,064 were enrolled in public schools and 212,594 in nonpublic schools. Enrollment in nonpublic schools stood at 273,011 in 1965 and is projected by the Department

of Public Instruction to possibly drop to 175,000 by 1972, should the reduction in nonpublic school enrollment continue at close to the rate experienced in recent years. Future enrollment in nonpublic schools is difficult to predict, contingent as it is on several factors--chief of which perhaps is the financing of nonpublic school operations.

Teacher Production by Grade Level and Subject Area

Actual production, by grade level and subject area, is reported below for the year 1970. The deans and department chairmen also provided estimates for 1975 and 1980.

TABLE XXVII

TEACHER PRODUCTION IN WISCONSIN--BY LEVEL AND AREA

Area and Level	1970 (Actual)	1975 (Estimate)	1980 (Estimate)
Administrators			
Guidance	144	176	224
Psychologist	17	66	125
Social Worker	21	18	18
Special Education			
Deaf	13	36	50
Emotionally Disturbed	21	37	72
Mentally Retarded	171	197	241
Special Learning Disabilities	12	9	9
Speech Impaired	187	220	271
Visually Handicapped	-	-	-
Remedial Reading	4	15	25
Librarian[1]	24	-	-
Kindergarten	588	612	748
Primary	1244	1372	1555
Intermediate	1017	1172	1359
Junior High	120	130	154
Agriculture	41	52	68
Audio-Visual	16	40	85

Area and Level	1970 (Actual)	1975 (Estimate)	1980 (Estimate)
Art			
Elementary	5	39	60
Secondary	35	69	102
K-12[2]	298	383	468
Business Education	112.5	168	222
Distributive Education	12	62	92
Driver Education	12	31	43
English	733.5	860	1029
Speech	147.5	194	254
Foreign Languages			
French	110	170	213
German	45	64	81
Latin	13	14	19
Spanish	119	191	250
Other	7	13	15
Home Economics	223	282	331
Industrial Arts	189	300	405
Mathematics	233	345	453
Music			
Vocal-Elementary	15	17	29
Vocal-Secondary	10	38	55
Vocal-K-12[2]	143	218	276
Instrumental-Elementary	0	22	30
Instrumental-Secondary	16	56	84
Instrumental-K-12[2]	92	126	169
Other	16	28	34
Physical Education			
Boys-Elementary	10	18	24
Boys-Secondary	35	38	51
Boys-K-12[2]	207	251	314
Girls-Elementary	6	13	18
Girls-Secondary	18	23	35
Girls-K-12[2]	234	325	424
Science			
Broad Fields	69	94	136
Biology	220.5	289	359
Chemistry	46	93	117
Earth Science	67	96	130
Physics	25	55	71
Other	6	1	2

Area and Level	1970 (Actual)	1975 (Estimate)	1980 (Estimate)
Social Science			
Broad Fields	121	133	172
Economics	12	34	44
History	485	575	703
Political Science	56	85	105
Social Studies	72	111	143
Sociology	68	130	195
Other	34	49	64
Other, General	4	92	160
TOTAL	8006	10307	12900

[1]Because of the nature of certification requirements for school librarians, institutions experienced difficulty in projecting estimates of total number of graduates eligible in this field. It also appears that the numbers are subject to considerable fluctuation from year to year. Already a field in which there is a general shortage of qualified applicants, there is little reason to believe that the supply and demand will be brought into better balance over the next several years.

[2]Not differentiated by teaching level.

Teacher Supply: The Elusiveness of Estimates

Estimates of teacher supply provided by the deans and department chairmen for the years 1975 and 1980 are indicative of new program intentions as well as campus enrollment expectations. These individual estimates were prepared separate one from another and thus do not necessarily take into account the plans of the other colleges and universities or the overall estimates of undergraduate enrollment in Wisconsin for the next decade.

Another way of establishing estimates of teacher production is to analyze the predicted undergraduate enrollment growth rates between 1970 and 1975 and between 1975 and 1980. Assuming (and it can only be an assumption) that career-choice patterns would remain relatively constant during the periods involved, these growth rates can then be applied to the actual number of persons qualified to enter the teaching profession in 1970. This

sort of gross calculation would result in a supply of approximately 9,000 persons in 1975 (compared to the estimate of about 10,000) and 10,000 in 1980 (compared to the estimate of about 13,000).

It should be noted, however, that even these more conservative figures would relate to a school-age population that is projected to be nearly 80,000 less than the current number (1,212,531) in 1975 and about 149,000 less in 1980. If, as is reported, we are experiencing a general oversupply of teachers in 1970, the situation would be magnified over the next decade if either of the two sets of estimates was realized and if pupil-teacher ratios remained relatively stable and few new programs were added at the elementary and secondary levels of education.

Estimates and Intervening Variables

The estimates cited can only tell us what is likely to occur if certain patterns remain unchanged. They are forecasts of what could happen, not of what will happen.

Both supply and demand are subject to a wide range of intervening variables which can drastically change market conditions. Demand, for example, would change considerably if pupil-teacher ratios were greatly reduced, if new programs were added in great quantity, if attrition of instructional staff increased or decreased appreciably, etc. Supply is subject to such factors as an adjustment in student career choices, changes in the attractiveness of the field, and changes in program admission standards and in certification requirements.

As an example, the U. S. Bureau of Labor Statistics recently warned that a decline in the need for elementary and secondary teachers, plus a growing number of women college graduates, will cause "strong competition" for jobs traditionally held by women unless they are increasingly accepted in

occupations defined as "shortage areas." BLS points out that two out of every five women in professional and related jobs are elementary and secondary school teachers and that over the period 1968-70 the number of women graduates is expected to increase two-thirds or twice the rate of men. A change in the career patterns of women college graduates, and the acceptance of a greater number of women into other occupational fields, are the kinds of variables which could markedly alter the teacher supply and demand situation.

In sum, it can be concluded that Wisconsin, like the nation as a whole, will experience a general oversupply of teachers of some magnitude unless factors affecting the supply and demand market change substantially.

CHAPTER V. TEACHER DEMAND IN WISCONSIN--1970-1980

As of the fall of 1970, there were 51,216 teachers and administrators employed in Wisconsin public elementary and secondary schools, and as of September 15, 1970, there were only 141 positions which had not been filled in Wisconsin public schools. One hundred of these positions were concentrated in 7 of the 32 professional categories identified by the Department of Public Instruction.

To determine what school district administrators saw as their future needs in staffing, a questionnaire was mailed to all 453 districts. Of the 453 districts, 422 responded for a 93% return. The lowest response from any one of the 19 CESA areas in which the districts are assigned was 79%; 9 of the CESA areas recorded 100% participation. The geographical arrangement of CESA areas is depicted below:

COOPERATIVE EDUCATIONAL SERVICE AGENCIES

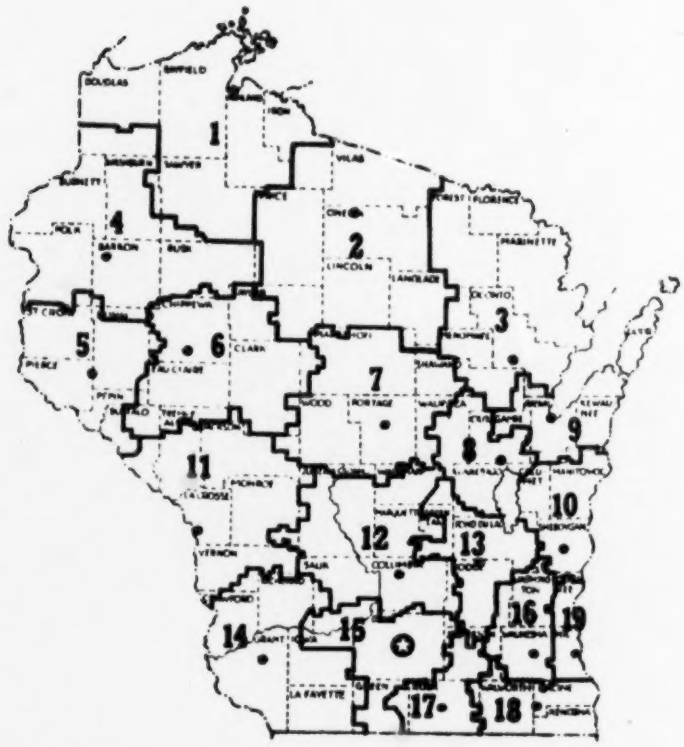


Table XXVIII shows the number of persons currently employed (by subject area and grade level), the number of persons with substandard certificates, and the number of positions estimated by district administrators as needed in 1975 and 1980. On the basis of numerical increase in positions between 1970 and 1980, the subjects may be ranked as follows:

TABLE III

SCHOOL DISTRICT ADMINISTRATORS' ESTIMATES OF NEED

(422 of 453 School Districts Reporting)

	Currently Employed	Sub-Standard Qualification	Estimated Need '75	Estimated Need '80	New Posts 1970-1975	New Posts 1975-1980	Total New Posts 1970-1980
Administrators	2,242	24	2,662	2,913	420	251	671
Supervisors	307	2	442	515	135	73	208
Guidance	976	13	1,240	1,404	264	164	428
Psychologists	168	1	263	318	95	55	150
Social Workers	127	1.5	238	301	111	63	174
SUB-TOTAL:	3,820	41.5	4,845	5,451	1,025	606	1,631
Special Education							
Deaf	132	2	159	176	27	17	44
Emotionally Disturbed	61	8	150	212	89	62	151
Mentally Retarded	826	51.5	1,007	1,120	181	113	294
Special Learning Disabilities	84	2	187	247	103	60	163
Speech Impaired	320	1	417	480	97	63	160
Visually Handicapped	14	3	23	29	9	6	15
SUB-TOTAL:	1,437	67.5	1,943	2,264	506	321	827
Remedial Reading	670	24.5	843	941	173	98	271
Librarian	936	18	1,160	1,311	224	151	375
Kindergarten	1,587	8	1,746	1,928	159	182	341
Primary (K-3)	8,265	153.5	8,958	9,699	693	741	1,434
Intermediate (4-6)	7,099	133.5	7,893	8,559	794	666	1,460
Jr. High-Non Dept.	1,375	25	1,520	1,671	145	151	296
Agriculture	227	1	242	250	15	8	23

	Currently Employed	Sub-Standard Qualification	Estimated Need '75	Estimated Need '80	New Posts 1970-1975	New Posts 1975-1980	Total New Posts 1970-1980
Art							
Elementary	483	5.5	653	750	170	97	267
Secondary	600	3	718	801	118	83	201
SUB-TOTAL:	1,083	8.5	1,371	1,551	288	180	468
Business Education	1,111	1.5	1,258	1,384	147	126	273
Distributive Education	68	1	160	189	92	29	121
Driver Education	405	1	502	578	97	76	173
English	3,051	12.5	3,400	3,660	349	260	609
Speech	213	.5	282	327	69	45	114
Foreign Languages							
French	294	1	365	415	71	50	121
German	236	2	282	353	46	71	117
Latin	105	--	106	102	1	-4	-3
Spanish	346	--	431	479	85	48	133
Other	5	--	7	9	2	2	4
SUB-TOTAL:	986	3	1,191	1,358	205	167	372
Home Economics	889	9	1,033	1,160	144	127	271
Industrial Arts							
Woods	412	1	509	569	97	60	157
Metals	239	.33	324	455	85	131	216
Mechanical Drawing	267	4.33	313	360	46	47	93
Other	424	37	542	599	118	57	175
SUB-TOTAL:	1,342	42.66	1,688	1,983	346	295	641
Math	2,157	6	2,417	2,645	260	228	488

	Currently Employed	Sub-Standard Qualification	Estimated Need '75	Estimated Need '80	New Posts 1970-1975	New Posts 1975-1980	Total New Posts 1970-1980
Music							
Vocal - Elementary	604	3.9	717	795	113	78	191
Vocal - Secondary	393	1	469	523	76	54	130
Instrumental - Elementary	328	1	416	474	88	58	146
Instrumental - Secondary	479	--	570	633	91	63	154
SUB-TOTAL:	1,804	5.9	2,172	2,425	368	253	621
Physical Education							
Boys - Elementary	458	.8	573	641	115	68	183
Boys - Secondary	769	--	880	960	111	80	191
Girls - Elementary	365	2.2	473	540	108	67	175
Girls - Secondary	688	2	808	887	120	79	199
SUB-TOTAL:	2,280	5	2,734	3,028	454	294	748
Science							
Broad Fields	583	4.5	656	750	73	94	167
Biology	591	3	703	762	112	59	171
Chemistry	333	1.2	387	433	54	46	100
Earth Science	231	1	290	330	59	40	99
Physics	227	.2	277	301	50	24	74
Other	243	4	270	293	27	23	50
SUB-TOTAL:	2,208	13.9	2,583	2,869	375	286	661
Social Sciences							
Broad Fields	653	3	769	854	116	85	201
Economics	142	.5	190	218	48	28	76
History	1,000	4.5	1,115	1,222	115	107	222

	Currently Employed	Sub-Standard Qualification	Estimated Need '75	Estimated Need '80	New Posts 1970-1975	New Posts 1975-1980	Total New Posts 1970-1980
Political Science	135	--	175	202	40	27	67
Social Studies	665	1	767	850	102	83	185
Sociology	110	.5	148	172	38	24	62
Other	85	--	113	113	28	0	28
SUB-TOTAL:	2,790	9.5	3,277	3,631	487	354	841
Other	242	--	294	336	52	42	94
TOTAL:	46,045	592	53,512	59,198	7,467	5,686	13,153

TABLE XXIX

ESTIMATE OF TEACHER NEED

(422 of 453 School Districts Reporting)

Subject Area	No. New Positions by 1980
Intermediate (4-6)	1,460
Primary (K-3)	1,434
Administrators	671
English	609
Mathematics	488
Guidance	428
Librarian	375
Kindergarten	341
Junior High (non-departmental)	296
Mentally Retarded	294
Business Education	273
Remedial Reading	271
Home Economics	271
Art-Elementary	267
History	222
Industrial Arts-Metals	216
Supervisors	208
Art-Secondary	201
Social Science (broad fields)	201
Physical Education (girls-secondary)	199
Physical Education (boys-secondary)	191
Music (vocal-elementary)	191
Social Studies	185
Physical Education (boys-elementary)	183
Physical Education (girls-elementary)	175
Industrial Arts (general)	175
Social Worker	174
Driver Education	173
Biology	171
Science (broad fields)	167
Special Learning Disabilities	163
Speech Impaired	160
Industrial Arts-Woods	157
Music (instrumental-secondary)	154
Emotionally Disturbed	151
Psychologist	150
Music (instrumental-elementary)	146
Spanish	133
Music (vocal-secondary)	130
Distributive Education	121
French	121
German	117
Speech	114
Chemistry	100
Earth Science	99
Other (miscellaneous positions)	94
Industrial Arts-Mechanical Drawing	93
Economics	76
Physics	74
Political Science	67
Sociology	62

Subject Area	No. New Positions by 1980
Science (other)	50
Deaf	44
Social Science (other)	28
Agriculture	23
Visually Handicapped	15
Foreign Language (other)	4
Latin	-3

Several observations can be made in regard to the estimates of need provided by the school district administrators. The administrators were simply asked to provide a figure for "total number (staff) needed" for 1975 and 1980, by subject area. The increase in faculty positions--from the 46,045 in 1970 to the estimated 53,515 in 1975 and 59,198 in 1980--would result in 7,467 new positions between 1970 and 1975 and 5,686 between 1975 and 1980, or a total of 13,153 for the decade. Since the number of school-age children in Wisconsin is expected to be less in 1975 than it was in 1970 (1,212,531 vs. 1,133,118) and even less in 1980 (1,063,525), any enrollment growth cannot be used to justify the overall estimated increases.

It is possible that the school district administrators were: (1) anticipating increased enrollment of students who formerly attended nonpublic schools, (2) planning for a substantial reduction of the pupil-teacher ratio, or (3) hoping for the improvement or addition of new programs. It would appear, however, that the school district administrators are simply accustomed to viewing education as a constantly booming enterprise and are not, generally speaking, looking forward to a leveling off, or decrease, in enrollments within their own district over the next ten years. Asked to estimate their enrollment in 1975, the 422 districts came up with an increase of 82,648 over 1970. They project further increases between 1975 and 1980 of 66,253--or a total of 148,901 for the period 1970-1980.

Some estimate of the number of children which will be moving through Wisconsin elementary and secondary schools over the next few years can be ascertained from the data listed below, excerpted from a Department of Public Instruction summary of data on related statistics affecting school projections:

TABLE XXX

DATA ON RELATED STATISTICS AFFECTING SCHOOL PROJECTIONS

Year	Live Births	School-Age Children	Public School Enrollment	Nonpublic Enrollment	Total School Enrollment
1955	92,333				
1956	93,496				
1957	96,398	951,332			
1958	95,950	983,416			
1959	98,518	1,016,943			
1960	99,493	1,044,772			
1961	98,435	1,072,864			
1962	94,497	1,107,334			
1963	91,605	1,141,707			
1964	89,910	1,165,357			
1965	82,918	1,180,288	859,101	273,011	1,132,112
1966	80,414	1,195,460	890,436	264,262	1,154,698
1967	75,797	1,208,222	921,032	251,020	1,172,052
1968	74,257	1,217,463	954,243	231,259	1,185,502
1969	74,324	1,218,554	980,064	212,594	1,192,658
1970	78,000*	1,212,531	993,736	196,844	1,190,580
1971	78,700**	1,204,537	1,000,000*	187,000*	1,187,000*
1972	81,100**	1,188,764	998,000*	175,000*	1,173,000*
1973	83,500**	1,170,688	991,573**		1,157,810**
1974	85,800**	1,151,516	983,395**		1,141,152**
1975	88,200**	1,133,118	975,615**		1,125,186**

*DPI estimate
**CCHE estimate

From the data above, it can be seen that increases in enrollment are, for the most part, more likely to be felt at the secondary level than at the elementary level for the next several years.

The nonpublic schools were not surveyed in the CCHE study. Although enrollment in nonpublic schools has decreased by 76,000 within the past five years, further decline is difficult to predict. It is possible, for example, that the majority of the nonpublic schools which were in the weakest financial situation have already closed and that enrollment decreases, if any, would now come at a less rapid rate. New and additional sources of revenue would also reduce or reverse the enrollment situation in the nonpublic schools.

Of the existing nonpublic school enrollment, 32,173 students are in grades 9-12 and 164,671 in grades K-8. Professional staff of the nonpublic schools in the fall of 1970 totaled 8,675--1,990 at the secondary level and 6,685 at the elementary. Between 1969 and 1970, the number of professional staff decreased by 732 positions. There were 838 nonpublic elementary and secondary schools in Wisconsin in 1969 and 805 in 1970. Elementary schools account for 720 of the 805, and there are 3 junior high schools and 82 high schools.

As was previously suggested, justification for additional public school teaching positions in Wisconsin for the next ten years cannot generally be made on the basis of enrollment growth--unless nonpublic school students are funneled into the public schools in increasingly greater numbers. Were this not to occur, the demand for teachers to 1980 would not be unlike that of 1970--even while production of qualified beginning teachers is expected to rise substantially during this same period.

In addition to new positions, however, teachers must also be employed to fill vacancies created by death and retirement. While no figures are available from the DPI for Wisconsin, NEA reports that the national average for teacher turnover is on the order of 8.1% of the total number of teachers at the elementary level and 8.6% at the secondary. At the same time, there are teachers who re-enter the profession following an interruption of one or more years. The national rate of re-entry is 3.2% of the total number of teachers at the elementary level and 3% at the secondary. National averages show that approximately 70% of all teacher education graduates enter classroom teaching immediately following graduation. As is the case with teacher turnover, this varies considerably by grade level and subject area. Across the country, the annual replacement of teachers who hold sub-standard certification is estimated at a minimum of 5.9% of the elementary teachers and 1.2% of the secondary teachers.

Still another factor to consider is the out-migration of persons who graduated with qualifications for standard certificates and who entered teaching. The latest figures available for Wisconsin (for persons who were graduated between September 1, 1968 and August 31, 1969) show that 68.1% of the 2,800 prepared in Wisconsin for elementary teaching remained in the state and 17.7% took teaching positions outside the state. Of the 3,474 graduates prepared to teach at the secondary level, 55.5% remained in state and 16.2% accepted teaching positions outside the state. There are no figures available for Wisconsin in regard to the in-migration of new and beginning teachers.

The school district administrators were asked in the CCHE survey whether there had been positions which they had been unable to properly fill during the past two years because of a shortage of qualified persons. A negative response was recorded by 257 administrators and an affirmative response by 154. Most frequently identified as fields in which a shortage of applicants was experienced were industrial arts, special education, guidance, remedial reading, librarian, music (vocal and instrumental), science, math, physical education, and art. These are basically the same fields mentioned by teacher placement officers as ones in which there are more openings than applicants.

Should the supply of beginning teachers increase only at the rate of enrollment growth in higher education and should demand, because of a leveling off of enrollment growth in the public schools, increase only modestly, it is likely that there would be at least some alleviation of the shortages in the fields mentioned, but increased surpluses in those fields in which there is already a balance or oversupply of applicants.

CHAPTER VI. SUMMARY AND IMPLICATIONS

There can be little doubt that the market conditions for elementary and secondary school teachers has undergone a marked change in recent years, a change which was most noticeably felt in the spring and summer of 1970 by school district administrators and prospective teachers alike. The national shift from a general shortage of teachers to a general oversupply seems actually to have occurred during the 1968-69 period, however. It was at this time that schools and departments of education around the country began to experience substantial increases in the number of graduates qualified to enter the teaching profession.

Even as this was occurring, a number of other variables began to make an impact upon the job market for teachers. It became evident that the K-12 school-age population in Wisconsin, and in the nation as a whole, would level off in numbers by the mid-70's and would decline slightly during the remainder of the decade. The enrollment growth of previous years which lead to the addition of new faculty positions would, in short, not be a major factor in the 70's. Greatest growth in the 1970's will occur at the secondary level, although the CCHE survey of school districts in Wisconsin indicates that administrators still tend to see elementary and secondary education as a "growth industry," estimating the need for new teaching positions at a rate well beyond that which could be justified by projected enrollment.

Reduced federal funding and a slackened national economy are probably also serving as a brake on program expansion in the public schools. Further, there is some evidence that the "tighter job market" is leading to a reduction of teacher turnover and a consequent reduction in job openings created by persons leaving the profession.

A Case in Point

Annual reports are prepared by the teacher placement offices of the public and private institutions of higher education in Wisconsin. These reports

vary in format, however, and it is difficult to assemble these data in a uniform manner which would lend itself to analysis. Some of the reports, for example, do not place the past year's teacher placement experience in the perspective of the record for previous years. The Educational Placement Bureau of the University of Wisconsin Madison campus does present data in a manner which allows for such a perspective, however, and the analysis provided by Bureau Director Robert G. Heideman in his 1969-70 Annual Report, issued February, 1971, provides an example of the changing teacher supply and demand picture.

Dr. Heideman notes in his report that the number of registrants at the UW office increased in 1969-70 by 4%, from 3,243 to 3,376, reflecting a drop of 7.2% in new registrants but an increase of 26.3% in alumni registrations. He further notes that there was a 15.8% increase in the number of credentials sent, from 29,607 to 34,901, and that the number of students interviewed by employers rose by 22%, from 1,389 to 1,786.

At the same time, the report shows that the number of positions reported to the bureau decreased from 103,585 in 1969 to 59,711 in 1970--a drop of 43,874, or 42.3%. The number of employer interviews held decreased by 30%, from 170 to 131. The office experienced a drop in the number of newly certified teachers who entered teaching, from 63% to 55.9% in elementary and from 51% to 46.6% in secondary. Total decrease between 1968-69 and 1969-70 was from 55.3% to 48.9% as compared to the national figure of 70.5% in 1968. Nationally, it is reported, from 35% to 40% of this year's available teachers did not find employment in the profession. Those of this group who continue to seek teaching positions will add to the surplus produced each year by new graduates.

Noting that there are many indices indicating a general tightening of the job market, Dr. Heideman sees, "no appreciable change during the coming year." He concludes that "All evidence would support the premise that either we are over-supplied or under-demanded in many fields with anticipation of a worsening situation in the future."

In the midst of a general oversupply of teachers, there remain pockets of shortages. Demand continues to exceed supply nationally, according to NEA, in such fields as industrial arts; special education; mathematics; trade, industrial and vocational; natural and physical science; physical education (women); remedial reading; speech correction; and regular elementary instruction. The CCHE statewide survey of school district administrators and college and university placement officers revealed that a shortage of qualified applicants in these same fields is also being experienced in Wisconsin. Additional shortages were reported in vocal and instrumental music, guidance, school librarian, and art. Greatest oversupply of applicants was registered in such fields as English, speech, foreign languages, biology, and social studies (history in particular). A balance of supply and demand seems to characterize the majority of subject fields.

There is reason to believe that declining enrollments at the elementary level, along with an increasing number of new elementary education graduates, will soon produce a supply and demand balance, if not an oversupply of persons qualified as elementary teachers. It would also appear that there will be an increase of qualified persons in mathematics, the sciences, music, art, and guidance. The situation seems less promising in the fields of special education, vocational education, library and remedial reading. It is difficult to predict the manner in which the market might adjust. There is, of course, a possibility that more college students may begin to enter fields in which there is a greater opportunity for placement. It should also be noted that it would not require too great an increase in majors to make up for shortages in some subject areas and that an over-adjustment of the market is a possibility should too many new programs be started or too many college students shift in their choice of subject majors.

The Changing Market: Some Implications

The CCHE staff study of teacher supply and demand in Wisconsin is intended to serve primarily as a source of information from which policy recommendations might be determined for recommendation to the Coordinating Council

for Higher Education. In formulating these recommendations, the staff will, over the next few months, call upon the advice and assistance of the CCHE Teacher Education Council and other interested individuals and groups. Preliminary interpretation of the data is provided by the staff for Council information purposes through the listing of the following possible implications:

1. The end of the period of a general shortage of elementary and secondary school teachers presents an opportunity for greater attention to quality, rather than quantity, of instructional personnel. This should be true at three levels of concern: (a) In the admission of students into teacher education programs, the continuing evaluation of these students during their training, and the nature of their studies; (b) In the review of certification requirements by the Department of Public Instruction; and (c) In the establishment of new employment standards by school boards and administrators.

2. The expected leveling-off and eventual decline of elementary school students, along with an increasing number of graduates of four-year elementary teacher programs, argue against the necessity for continued operation of Wisconsin's County Teachers Colleges.

3. The U. S. Bureau of Labor Statistics has reported that the number of women college graduates increased two-thirds, or twice the rate for men, between 1968 and 1970. "Traditional" career fields will not be able to absorb this increase because about two out of every five women in professional and related jobs are elementary and secondary school teachers. With supply of teachers expected to exceed demand over the course of the next decade, new career opportunities will be particularly needed for women, many of whom might be well advised to prepare for occupations in which there is a high demand.

4. Colleges and universities should be encouraged to consider comprehensive career counseling services for students. Such services should be made available to students at the outset of their college career and throughout the period of their studies. Career reference material should be available in a wide range of occupations and fields of study.

5. Institutions of higher education, as well as students, should give consideration to the concept of "career alternatives" in structuring certain academic programs. Whenever feasible, thought should be given to the provision of preparing a student in such a manner that he or she might graduate with more than one career possibility.

6. There is need for regular, on-going study of the manpower situation in education. College and university teacher placement offices in Wisconsin should be encouraged to report significant data in a standardized format, lending itself to analysis on a statewide basis. Annual reports of teacher placement offices would be more useful if they included uniform data for previous years, as well as for the most recent year.

7. Better data indices and data gathering procedures should be available at the DPI level to allow for ready identification of teacher turnover, enrollment trends, in-migration of teachers, etc. A central agency should also assume responsibility for coordinating information in teacher production.

8. Members of the Wisconsin Placement Directors Association should continue to work closely together toward the development of techniques and procedures which could bring about more effective and efficient placement of their registrants. Placement officers should be encouraged to provide job market information to those persons within their institutions who determine program policy in teacher education. Existing working relationships with school district administrators should be encouraged and, if necessary, enlarged.

9. The general oversupply of teachers undergirds the CCHE position that UW-Green Bay and UW-Parkside should not give special emphasis to programs of teacher preparation.

10. The public higher education systems and the CCHE should avoid the approval of new academic programs which could lead to the addition of more graduates in teaching fields which are already oversupplied. It is not now thought necessary to discontinue existing teacher education programs. As market adjustments occur, the staff will audit these programs in the same review manner applied to other academic programs. Systems should be encouraged to plan education programs with some consideration to immediate and long-range market needs. Greater attention should be given to emerging fields, such as early childhood development, and to fields in which there are critical shortages, e.g., special education.

11. Consideration should be given to the possibility of regional or national coordination of placement services.